

WALK NORTHAMPTON BIKE



City of
Northampton
Massachusetts



PEDESTRIAN & BICYCLE COMPREHENSIVE PLAN ANNEX

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APPENDIX 2.....MAIN STREET COST ESTIMATE

APPENDIX 3.....URBAN / RURAL COMPLETE STREETS DESIGN MANUAL

APPENDIX 4.....BELCHERTOWN REPORT

APPENDIX 5.....PVPC PUBLIC ENGAGEMENT REPORT

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PREPARED FOR THE CITY OF NORTHAMPTON BY
ALTA PLANNING + DESIGN WITH WATSON ACTIVE



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FURTHER RESOURCES:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2004). GUIDE FOR PLANNING, DESIGN, AND OPERATION OF PEDESTRIAN FACILITIES.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2011). A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

EWING & BROWN (2009). U.S. TRAFFIC CALMING MANUAL

FEDERAL HIGHWAY ADMINISTRATION (2005). CROSSWALK MARKING FIELD VISIBILITY STUDY.

FEDERAL HIGHWAY ADMINISTRATION (2009 OR MOST RECENT). MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. REVISIONS 1 & 2 DATED (2012).

FEDERAL HIGHWAY ADMINISTRATION (2004 OR MOST RECENT). STANDARD HIGHWAY SIGNS.

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MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.

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UNITED STATES DEPARTMENT OF JUSTICE (2010). ADA STANDARDS FOR ACCESSIBLE DESIGN

GENERAL NOTES

- 1. ALL CROSSWALK MARKINGS AND YIELD/STOP BARS SHALL BE WHITE.
- 2. PARKING SHALL BE PROHIBITED BETWEEN ANY YIELD LINES/STOP BARS AND CROSSWALK. SEE LATEST EDITION OF MUTCD FOR PARKING RESTRICTION SIGNING OPTIONS.
- 3. SPACES BETWEEN EACH MARKING SHOULD BE PLACED IN WHEEL TRACKS OF EACH LANE WHEN POSSIBLE.
- 4. MID-BLOCK CROSSWALKS SHOULD BE ACCOMPANIED WITH CURB EXTENSIONS, RAISED CROSSWALKS AND/OR REFUGE ISLANDS WHERE POSSIBLE.
- 5. PLACEMENT OF SIGNS SUBJECT TO PRIOR APPROVAL BY CITY ENGINEER.

CROSSWALK MATERIALS

EPOXY, THERMOPLASTIC, OR SIMILAR DURABLE MATERIALS ARE RECOMMENDED (UNIT PAVERS OR COLORED/ STAMPED CEMENT CONCRETE IS ALLOWED WITH APPROVAL OF CITY ENGINEER. SEE MUTCD CHAPTER 3G.

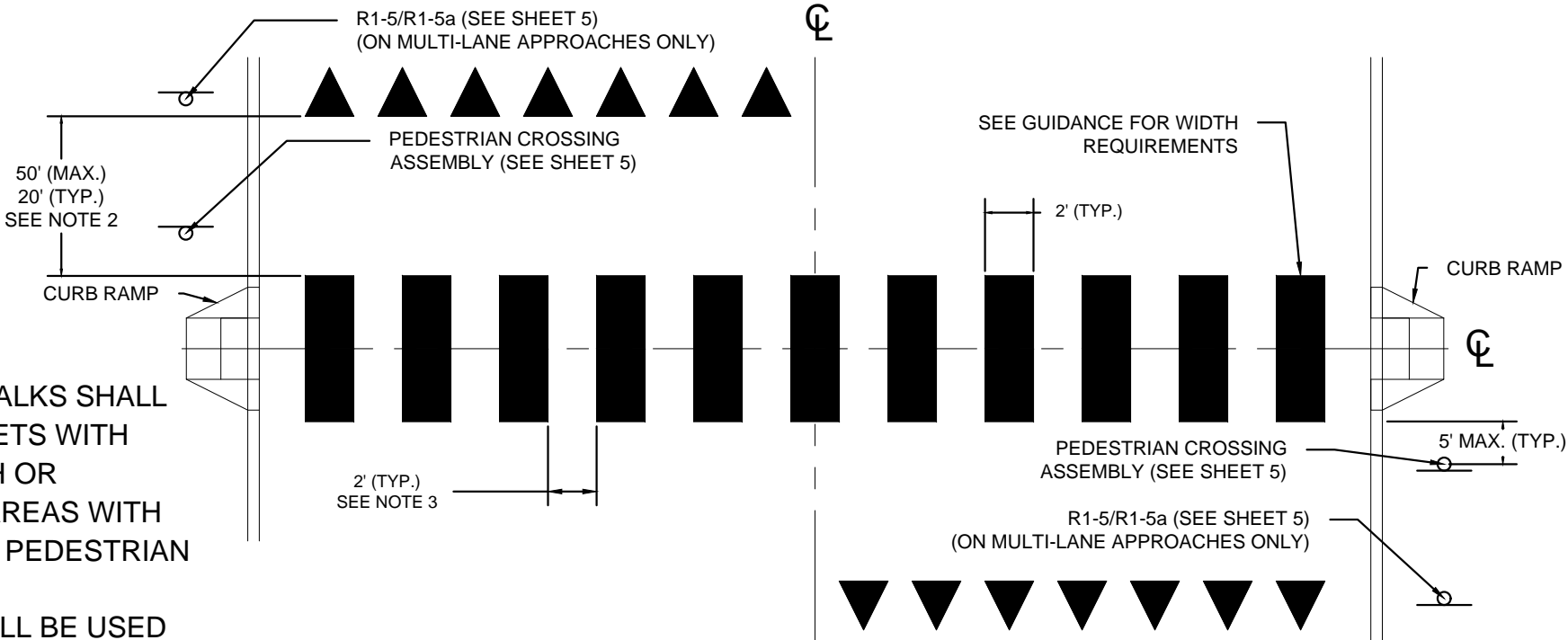
GUIDANCE

16' WIDE CROSSWALKS SHALL BE USED ON STREETS WITH SPEEDS OF 30 MPH OR GREATER AND IN AREAS WITH HIGH VOLUMES OF PEDESTRIAN TRAFFIC. 12' WIDE CROSSWALKS SHALL BE USED AT INTERSECTIONS WITH TRAFFIC SIGNALS PROVIDING CONTROLLED PEDESTRIAN PHASES, AND ON STREETS WITH SPEEDS LESS THAN 25 MPH. 8' CROSSWALKS SHOULD BE USED AT SIDE STREETS BETWEEN SIGNALIZED INTERSECTIONS.

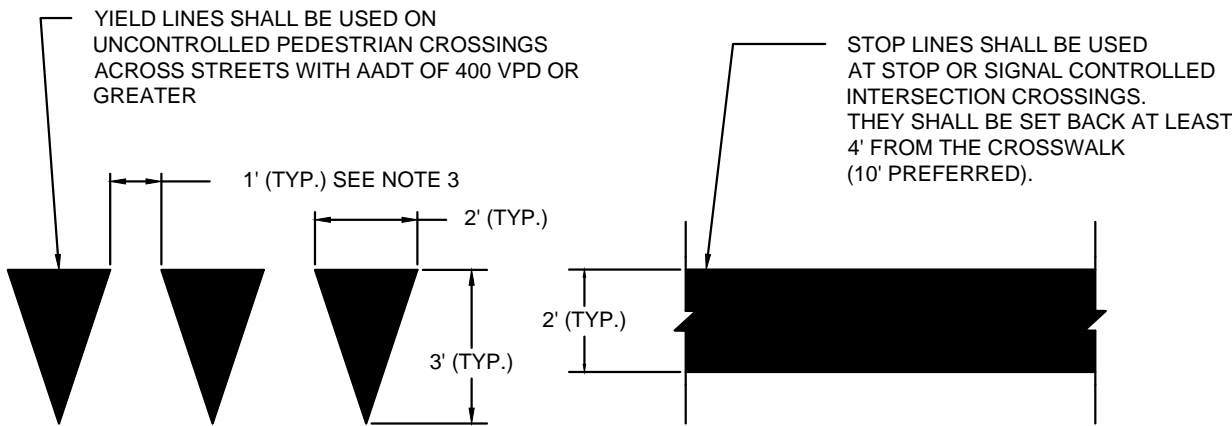
DESIGN REFERENCES

FEDERAL HIGHWAY ADMINISTRATION (2009 OR MOST RECENT). MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES & MASSDOT AMENDMENTS.

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HIGH VISIBILITY CROSSWALK (CONTINENTAL STYLE)



YIELD LINE DETAIL

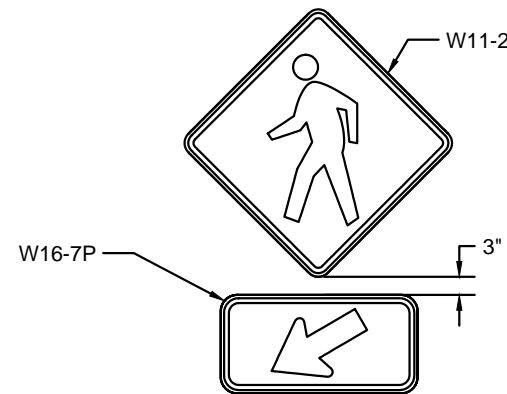
STOP LINE DETAIL



CROSSWALK MARKINGS
Recommended Pedestrian Crossing Standards
for the City of Northampton, MA

APPROVED BY:	REVISIONS:		
	DATE	NAME	ITEM





PEDESTRIAN CROSSING
ASSEMBLY DETAIL



R1-5 SIGN DETAIL



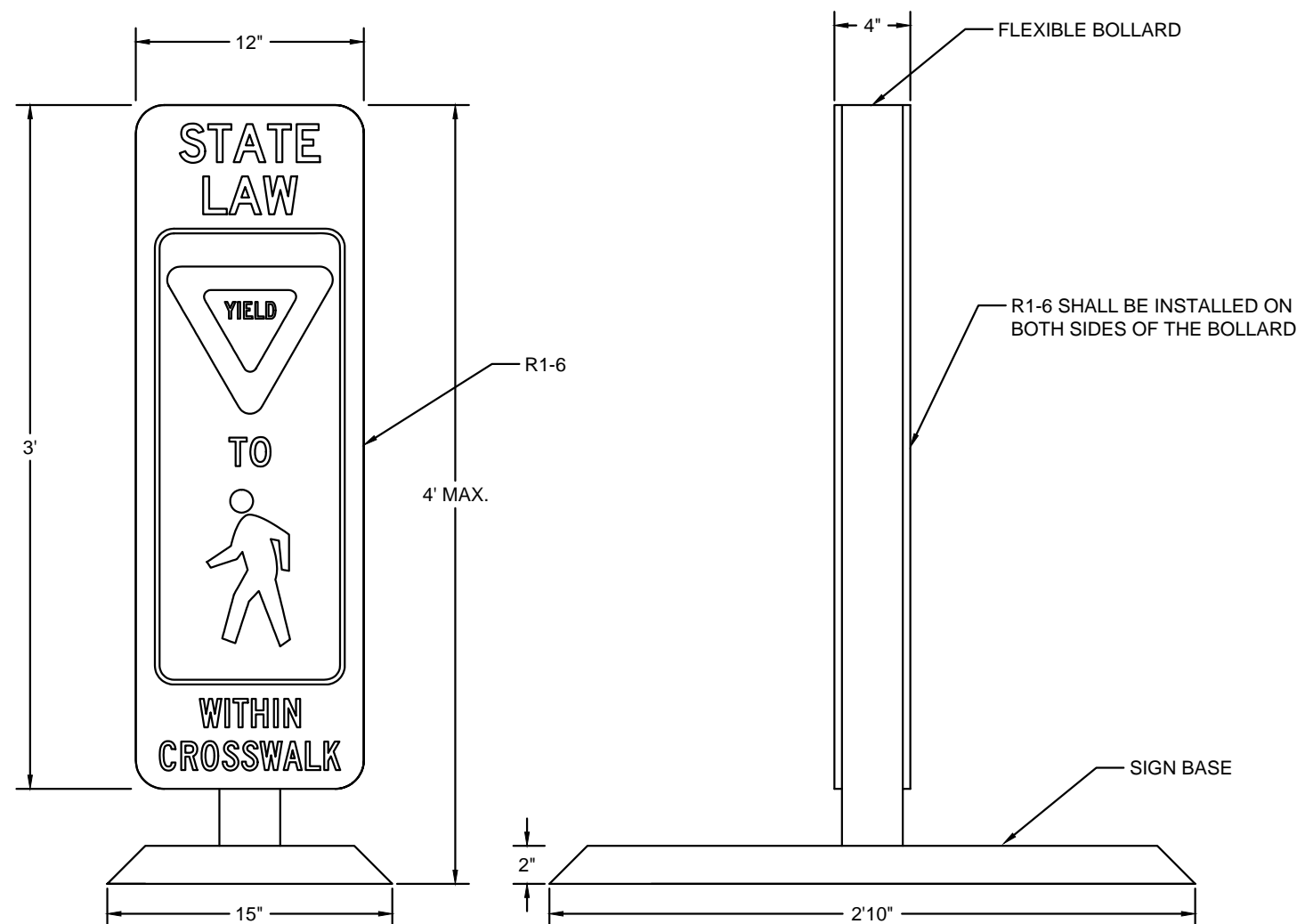
R1-5a SIGN DETAIL

GENERAL NOTES

1. ALL PEDESTRIAN SIGNAGE SHALL FOLLOW THE MOST CURRENT EDITION OF THE MUTCD AND MASSDOT AMENDMENTS FOR PEDESTRIAN CROSSINGS (SECTION 2C.50), SCHOOL ZONES (CHAPTER 7B), RETROFLECTIVITY (SECTION 2C.50), AND HAVE THE FLUORESCENT YELLOW-GREEN BACKGROUND (SECTION 1A.12).
2. PER MUTCD, ON MULTI-LANE APPROACHES, R1-5 OR R1-5a SIGNS SHALL BE USED IF YIELD LINES ARE USED IN ADVANCE OF A MARKED CROSSWALK.
3. EACH CROSSWALK SHALL HAVE THE PEDESTRIAN CROSSING ASSEMBLY LOCATED WITHIN FIVE FEET PRIOR TO THE CROSSWALK ON ALL APPROACHES.
4. SIGNAGE SHALL HAVE 12 FOOT GREEN CHANNEL POSTS (2 POUNDS/FOOT), A MARION STEEL LAP SPLICE, 5/16 INCH X 2.5 INCH CARRIAGE BOLTS, AND $\frac{5}{16}$ INCH BREAKAWAY NUTS FOR SIGN INSTALLATION.
5. FOR FURTHER PEDESTRIAN SIGNAGE OPTIONS AND DETAILS, SEE THE MOST CURRENT EDITION OF THE MUTCD & MASSDOT AMENDMENTS.
6. SEE SHEETS 10, 11, & 13 FOR ADDITIONAL SIGN DETAILS REFERENCED IN THIS DOCUMENT

DESIGN REFERENCES

FEDERAL HIGHWAY ADMINISTRATION
(2009 OR MOST RECENT). MANUAL ON
UNIFORM TRAFFIC CONTROL DEVICES &
MASSDOT AMENDMENTS.



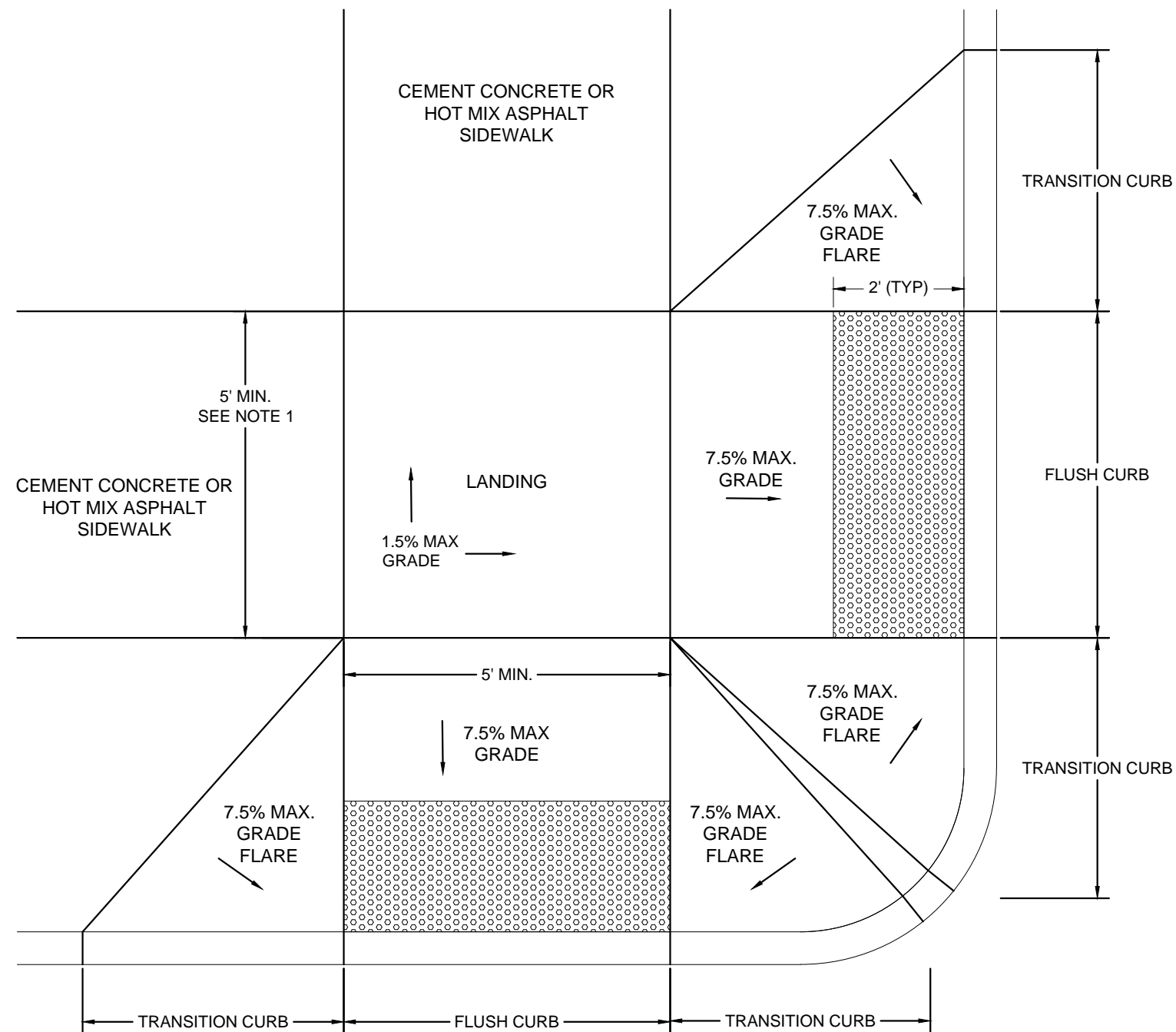
IN-STREET YIELD TO PEDESTRIAN SIGN DETAIL

DESIGN REFERENCES

FEDERAL HIGHWAY ADMINISTRATION (2009 OR MOST RECENT). MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES & MASSDOT AMENDMENTS.

GENERAL NOTES

1. SIGN SHALL BE PLACED ON THE CENTERLINE OF A CROSSWALK OR IN AN ISLAND IF AVAILABLE.
2. CENTER BOLLARD SHALL BE CONSTRUCTED SUCH THAT IF STRUCK BY A VEHICLE IT WILL BEND OVER AND THEN BOUNCE BACK TO ITS ORIGINAL, VERTICAL POSITION, UNLESS INSTALLED IN A RAISED MEDIAN ISLAND.
3. SIGN SHALL NOT BE PLACED IN ADVANCE OF A CROSSWALK.
4. THE SIGN SHALL HAVE A BLACK LEGEND (EXCEPT FOR THE RED YIELD SIGN SYMBOL) AND BORDER ON A WHITE BACKGROUND, SURROUNDED BY A FLUORESCENT YELLOW-GREEN BACKGROUND AREA.
5. SIGN DESIGNATION PER 2009 MUTCD



PERPENDICULAR CURB RAMP DETAIL

MATERIALS

DEPENDING ON CONTEXT, SIDEWALKS SHOULD BE CONSTRUCTED OUT OF HOT MIX ASPHALT OR CEMENT CONCRETE. CURB RAMPS, FLARES, AND LANDINGS SHALL BE CONSTRUCTED FROM CEMENT CONCRETE.

GENERAL NOTES

1. A 5' MIN SQUARE LANDING SHALL BE PRESENT AT THE SIDEWALK SIDE OF EACH CURB RAMP IN ORDER TO PROVIDE TURNING SPACE FOR INDIVIDUALS UTILIZING MOBILITY DEVICES. LANDING GRADE SHALL BE 1.5% MAX PERPENDICULAR TO THE ROAD AND LEVEL PARALLEL TO THE ROAD.
2. CURB RAMPS SHALL NOT BE IN ANY PART LOCATED WITHIN THE SIDEWALK PATHWAY OR BLOCK THE SIDEWALK PATHWAY, WITH THE EXCEPTION OF PARALLEL CURB RAMPS IN CONSTRAINED CONDITIONS (SEE SHEET 6).
3. PERPENDICULAR CURB RAMPS (DETAILED HERE) SHALL BE THE STANDARD FOR THE CITY OF NORTHAMPTON, AND ALTERNATIVE CURB RAMP DESIGNS SHALL ONLY BE IMPLEMENTED UNDER CONSTRAINED CONDITIONS DETERMINED BY AN ENGINEER.
4. ADA COMPLIANT DETECTABLE WARNING PANELS SHALL BE INSTALLED AT THE BASE OF EACH CURB RAMP FOR THE ENTIRETY OF ITS WIDTH. (SEE SHEET 7)
5. 5' MIN. SIDEWALK WIDTHS FOR RESIDENTIAL CORRIDORS, 6' TO 12' PREFERRED ALONG COMMERCIAL CORRIDORS..

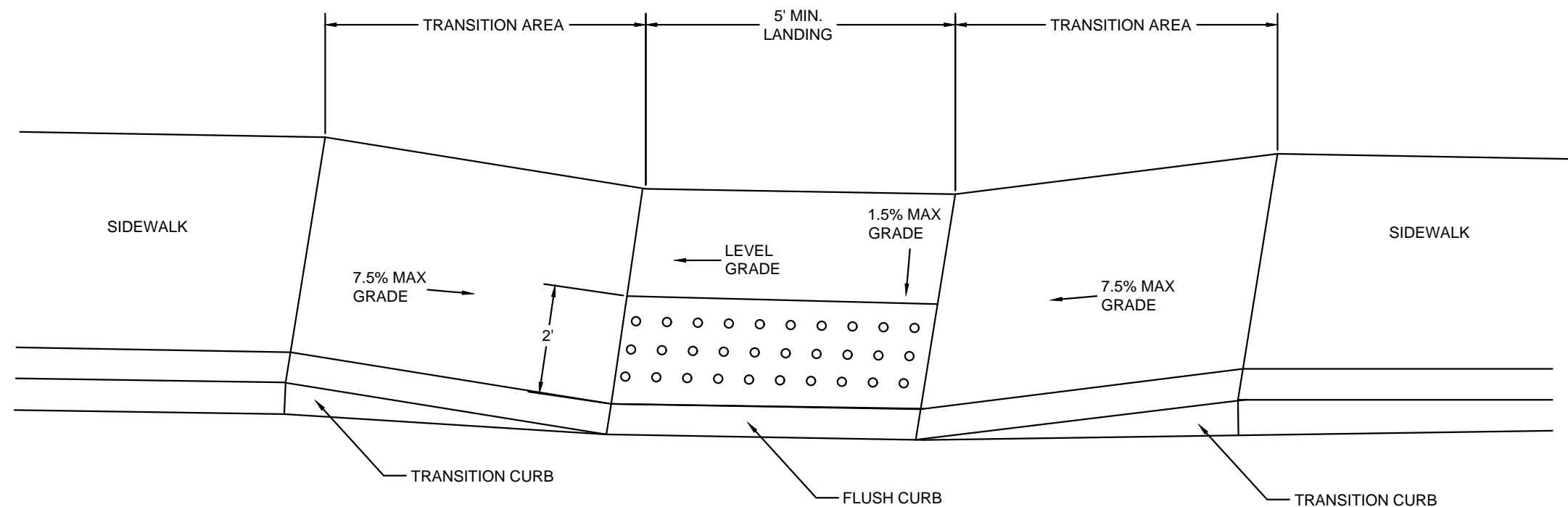
DESIGN REFERENCES

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FEDERAL HIGHWAY ADMINISTRATION (2015). DESIGNING SIDEWALKS AND TRAILS FOR ACCESS PART 2 OF 2: BEST PRACTICES DESIGN GUIDE.

US DEPARTMENT OF JUSTICE (2010). ADA STANDARDS FOR ACCESSIBLE DESIGN.

MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.



PARALLEL CURB RAMP DETAIL

GENERAL NOTES

1. A 5' MIN SQUARE LANDING SHALL BE PRESENT AT THE SIDEWALK SIDE OF EACH CURB RAMP IN ORDER TO PROVIDE TURNING SPACE FOR INDIVIDUALS UTILIZING MOBILITY DEVICES. LANDING GRADE SHALL BE 1.5% MAX PERPENDICULAR TO THE ROAD AND LEVEL PARALLEL TO THE ROAD.
2. ADA COMPLIANT DETECTABLE WARNING PANELS SHALL BE INSTALLED AT THE BASE OF EACH CURB RAMP FOR THE ENTIRETY OF ITS WIDTH. (SEE SHEET 7)
3. 5' MIN. SIDEWALK WIDTHS FOR RESIDENTIAL CORRIDORS, 6' TO 12' PREFERRED ALONG COMMERCIAL CORRIDORS..

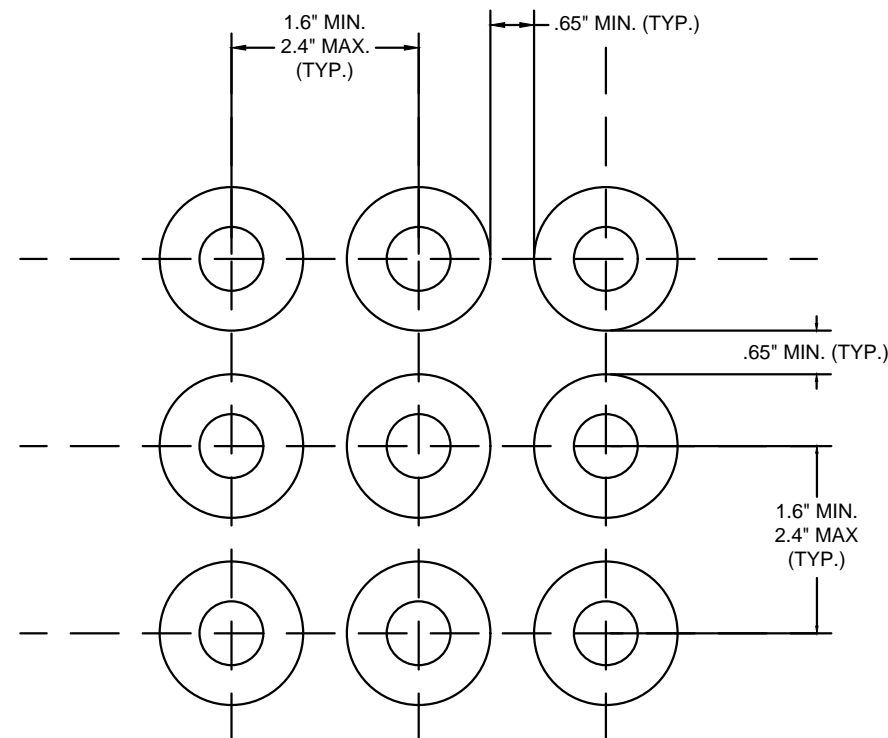
DESIGN REFERENCES

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2004). GUIDE FOR THE PLANNING, DESIGN, AND OPERATION OF PEDESTRIAN FACILITIES.

FEDERAL HIGHWAY ADMINISTRATION (2015). DESIGNING SIDEWALKS AND TRAILS FOR ACCESS PART 2 OF 2: BEST PRACTICES DESIGN GUIDE.

US DEPARTMENT OF JUSTICE (2010). ADA STANDARDS FOR ACCESSIBLE DESIGN.

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (2014). CONSTRUCTION STANDARD DETAILS.



DETECTABLE WARNING PANEL DETAIL

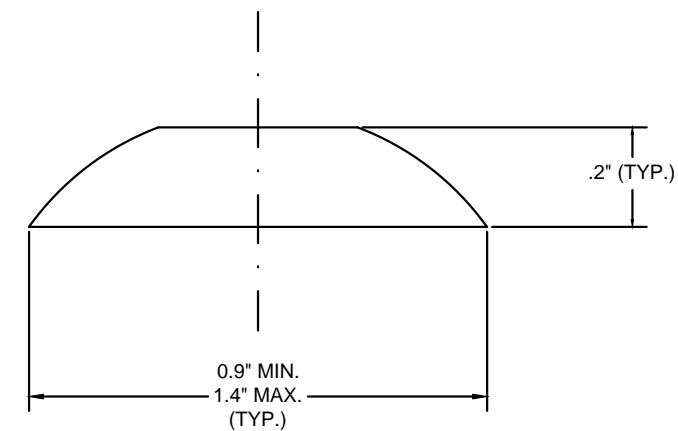
DESIGN REFERENCES

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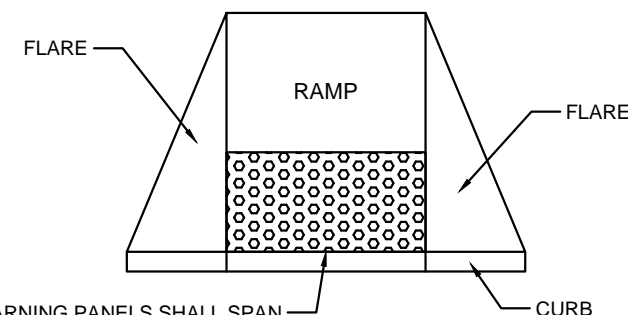
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TRUNCATED DOME DETAIL

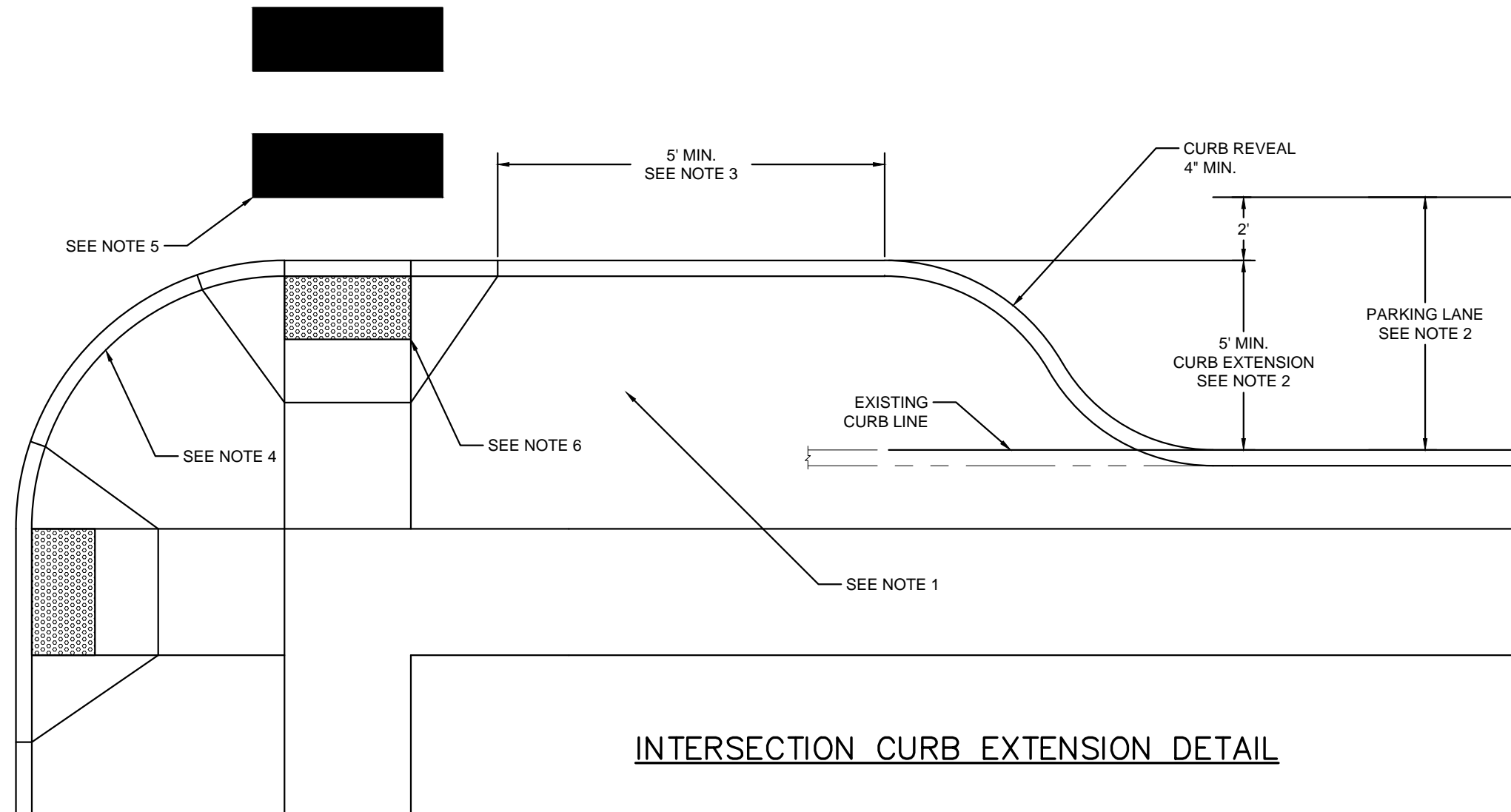


DETECTABLE WARNING PANELS SHALL SPAN THE FULL WIDTH OF THE RAMP, EXCLUDING THE FLARES

TYPICAL PANEL INSTALL DETAIL

GENERAL NOTES

- PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.



INTERSECTION CURB EXTENSION DETAIL

GENERAL NOTES

1. INFILL AREA SHALL MATCH ADJACENT ZONE
2. PARKING LANE SHALL BE OF SUFFICIENT WIDTH TO ACCOMMODATE THE TYPE OF PARKING USED, EITHER PARALLEL, ANGLED, AND PERPENDICULAR. CURB EXTENSION SHALL BE 2' SHORTER THAN PARKING LANE WIDTH.
3. THE LENGTH OF CURB EXTENSIONS SHOULD BE EXTENDED IF ACCOMMODATING A BUS STOP, BIKE PARKING, BENCHES, OR AN AREA FOR OUTDOOR CAFE SPACES. SUCH EXTENSION SHALL REQUIRE APPROVAL FROM CITY ENGINEER.
4. 15' TURNING RADIUS PREFERRED EXCEPT ON DESIGNATED TRUCK AND BUS ROUTES OR MAJOR COMMERCIAL ROADWAYS PER DISCRETION OF THE CITY ENGINEER
5. SEE SHEET 2 FOR CROSSWALK MARKING DETAILS.
6. SEE SHEET 5 FOR PEDESTRIAN CURB RAMP DETAILS.

DESIGN REFERENCES

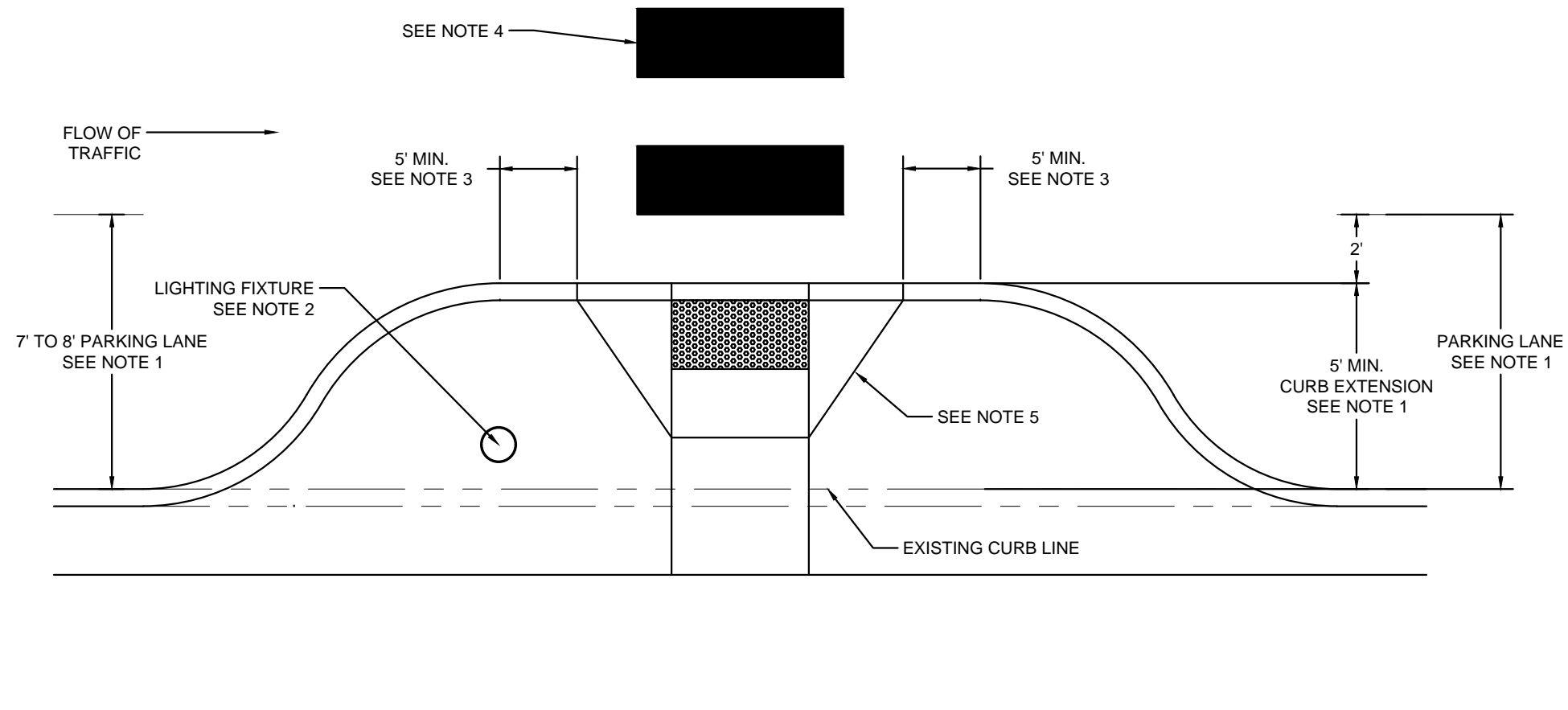
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2004). GUIDE FOR THE PLANNING, DESIGN, AND OPERATION OF PEDESTRIAN FACILITIES.

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NATIONAL ASSOCIATION OF CITY TRANSPORTATION OFFICIALS (2013). URBAN STREET DESIGN GUIDE.

US DEPARTMENT OF JUSTICE (2010). ADA STANDARDS FOR ACCESSIBLE DESIGN.

MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.



MID-BLOCK CURB EXTENSION DETAIL

GENERAL NOTES

1. PARKING LANE SHALL BE OF SUFFICIENT WIDTH TO ACCOMMODATE THE TYPE OF PARKING USED, EITHER PARALLEL, ANGLED, OR PERPENDICULAR. CURB EXTENSION SHALL BE 2' SHORTER THAN PARKING LANE WIDTH.
2. A LIGHTING FIXTURE (PREFERABLY PEDESTRIAN SCALE) SHALL BE INSTALLED WITHIN 50' IN ADVANCE OF THE MID-BLOCK CROSSING IF NOT ALREADY PRESENT. IF A LIGHTING FIXTURE DOWNSTREAM OF THE FLOW OF TRAFFIC IS CLOSER THAN THE CLOSEST UPSTREAM LIGHTING FIXTURE, THEN A LIGHTING FIXTURE SHALL BE INSTALLED CLOSER THAN THE DOWNSTREAM FIXTURE IN ADVANCE OF THE CROSSING TO AVOID BACKLIGHTING.
3. THE LENGTH OF CURB EXTENSIONS SHOULD BE EXTENDED ON ONE OR BOTH SIDES IF ACCOMMODATING A BUS STOP, BIKE PARKING, BENCHES, OR AN AREA FOR OUTDOOR CAFE SPACES IF THE ADJACENT SIDEWALK IS LESS THAN 10' IN WIDTH. SUCH EXTENSION SHALL REQUIRE APPROVAL FROM CITY ENGINEER.
4. SEE SHEET 2 FOR CROSSWALK MARKING DETAILS.
5. SEE SHEET 5 FOR PEDESTRIAN CURB RAMP DETAILS.

DESIGN REFERENCES

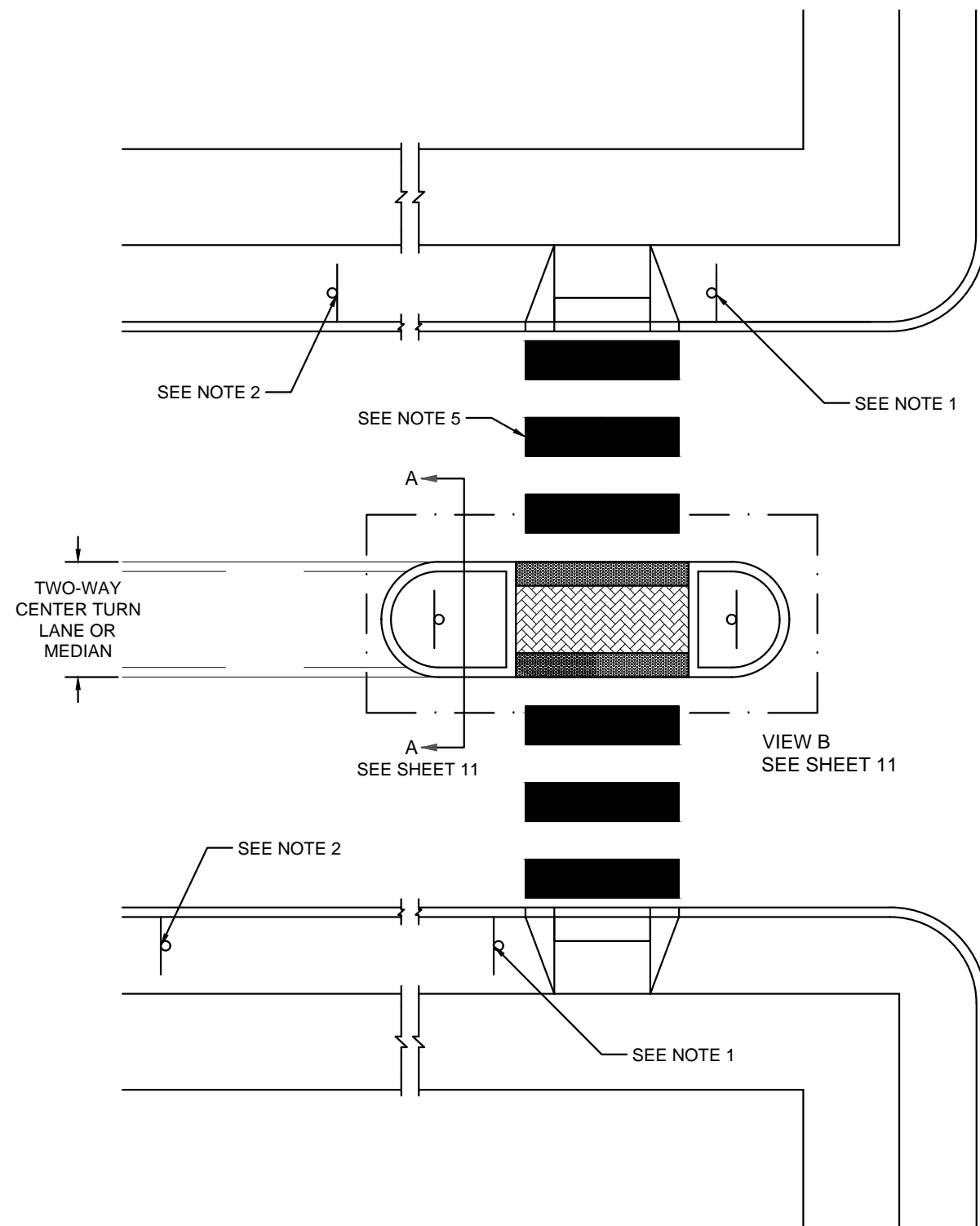
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MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.



PEDESTRIAN REFUGE DETAIL

GENERAL NOTES

1. A PEDESTRIAN CROSSING ASSEMBLY (SEE SHEET 2) SHALL BE INSTALLED ON BOTH SIDES OF THE CROSSWALK. THE ASSEMBLY SHALL ALSO BE INSTALLED ON THE MEDIAN ISLAND.
2. R7-1 SHALL BE INSTALLED 20' IN UPSTREAM AND DOWNSTREAM FROM PEDESTRIAN REFUGE ISLANDS AT INTERSECTIONS, AND 100' IN ADVANCE OF AND 20' DOWNSTREAM FROM MID-BLOCK PEDESTRIAN REFUGE ISLAND CROSSINGS, OR EQUIVALENT PARKING PROHIBITION DETERMINED BY THE CITY ENGINEER.
3. SIGN DESIGNATION PER 2009 MUTCD.
4. SEE MUTCD FOR ALTERNATIVE SIGN OPTIONS.
5. SEE SHEET 2 FOR CROSSWALK MARKING DETAILS.
6. SIGN R7-1 ARROW DIRECTION DEPENDENT UPON SIGN LOCATION.



SEE NOTE 6

R7-1 SIGN DETAIL

DESIGN REFERENCES

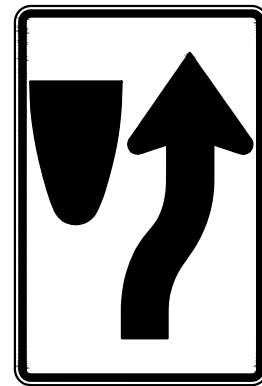
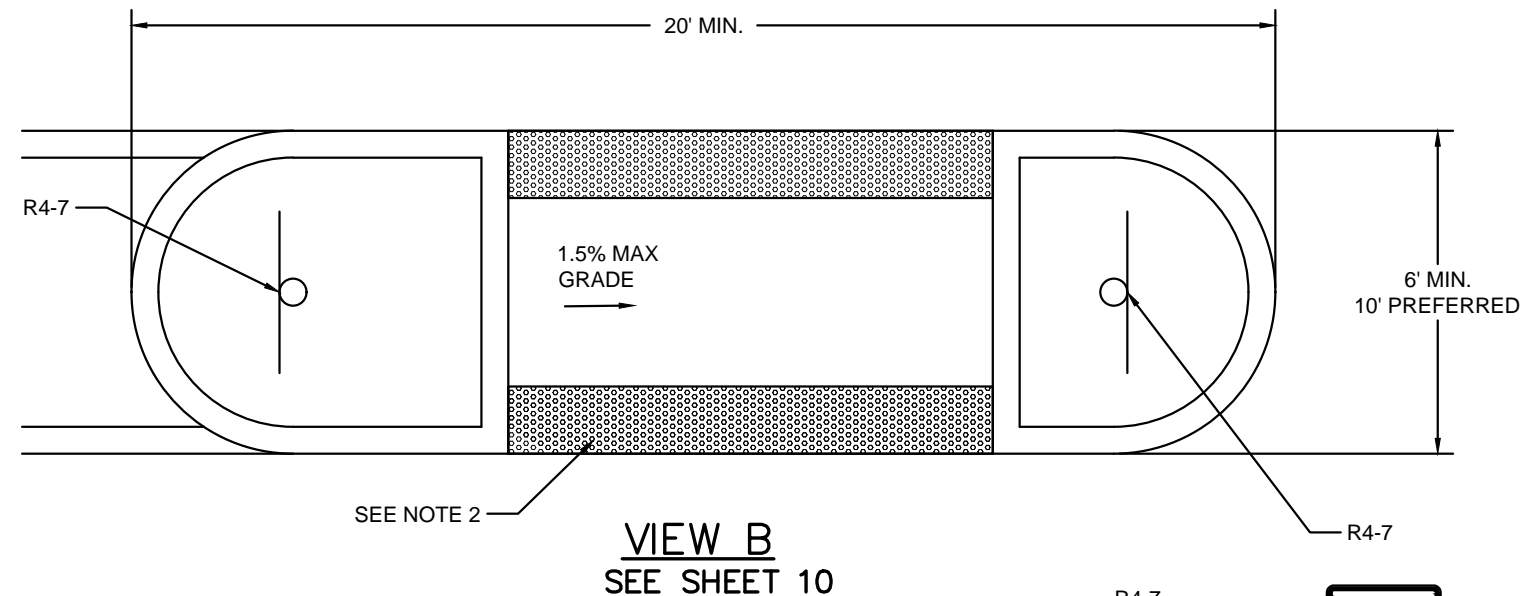
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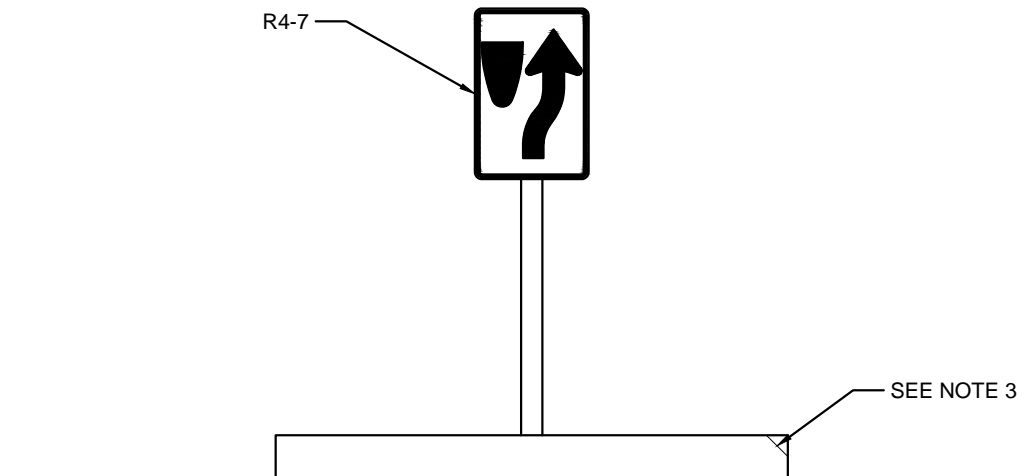
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MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.

FEDERAL HIGHWAY DEPARTMENT (2015). DESIGNING SIDEWALKS AND TRAILS FOR ACCESS.



R4-7 SIGN DETAIL



SECTION A-A
SEE SHEET 10

GENERAL NOTES

1. PEDESTRIAN REFUGE ISLAND PATHWAYS SHALL NOT EXCEED THE WIDTH OF THE CORRESPONDING CROSSWALK. MATCHING THE WIDTH OF THE CORRESPONDING CROSSWALK IS PREFERRED.
2. EMBEDDED DETECTABLE WARNING PANELS SHALL BE INSTALLED ACROSS PATHWAYS ON PEDESTRIAN REFUGE ISLANDS.
3. PEDESTRIAN REFUGE ISLANDS LOCATED ALONG TRUCK OR TRANSIT ROUTES SHALL BE CONSTRUCTED WITH MOUNTABLE CURBS.
4. REFUGE ISLAND LANDSCAPING SHALL NOT EXCEED 18" IN HEIGHT.
5. SIGN DESIGNATION PER 2009 MUTCD.

DESIGN REFERENCES

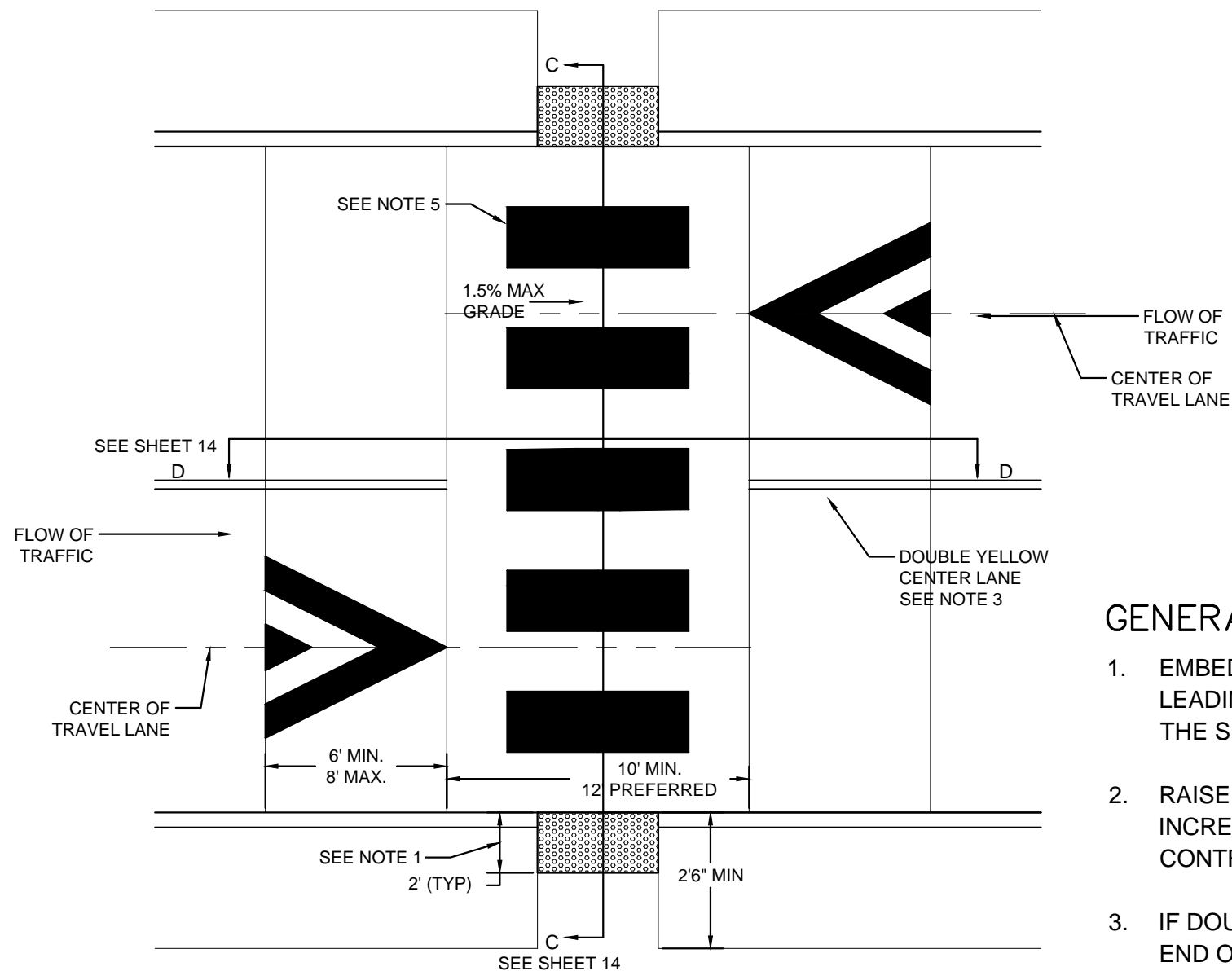
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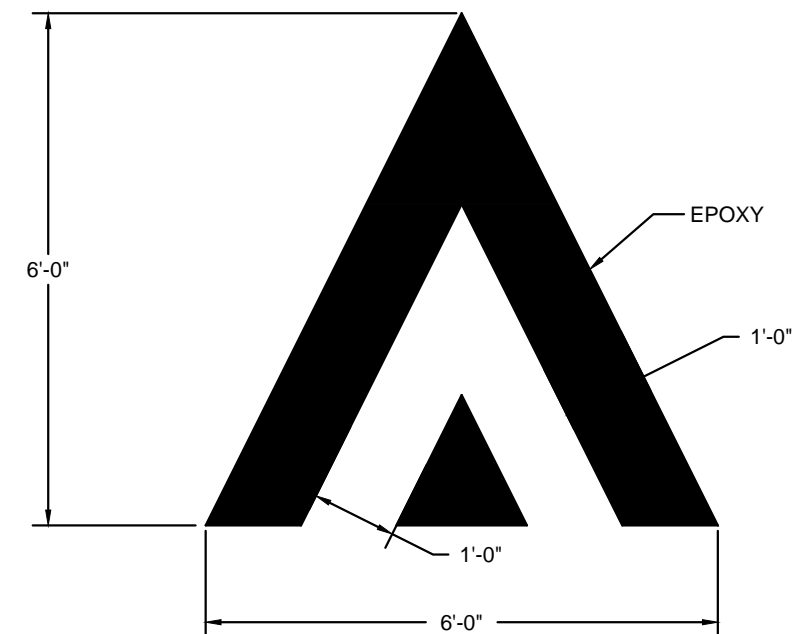
US DEPARTMENT OF JUSTICE (2010). ADA STANDARDS FOR ACCESSIBLE DESIGN.

MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.

FEDERAL HIGHWAY DEPARTMENT (2015). DESIGNING SIDEWALKS AND TRAILS FOR ACCESS.



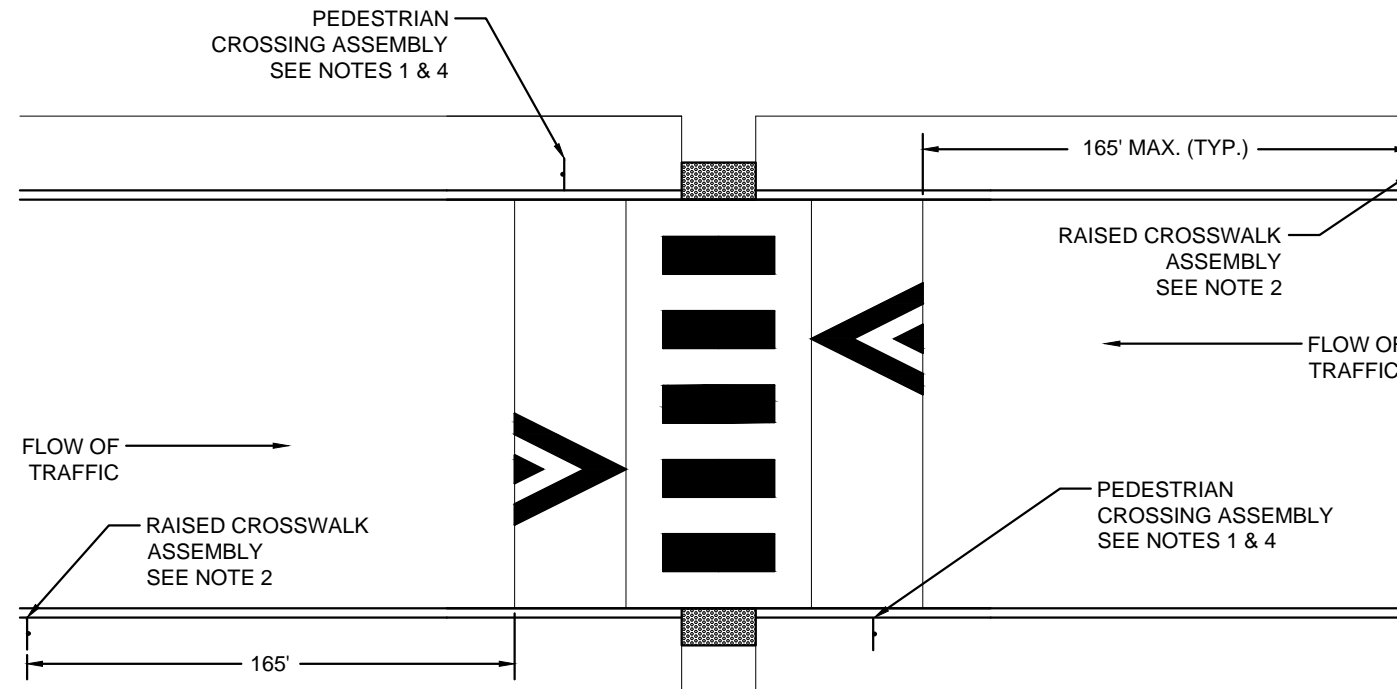
RAISED CROSSWALK DETAIL
SEE SHEET 13 FOR SIGN DETAILS



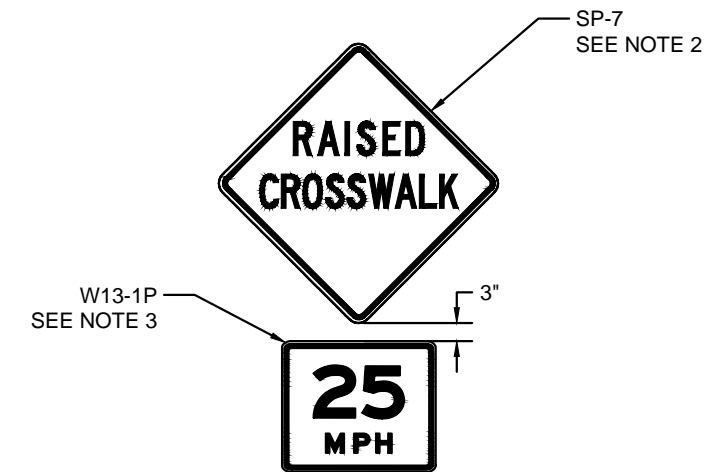
RAISED CROSSWALK MARKING DETAIL

GENERAL NOTES

1. EMBEDDED DETECTABLE WARNING PANELS SHALL BE INSTALLED ACROSS THE SIDEWALKS LEADING INTO RAISED CROSSWALKS. THEY SHALL BE INSTALLED AT THE CURB EDGE OF THE SIDEWALK AS SHOWN.
2. RAISED CROSSWALK MARKINGS SHALL BE INSTALLED ON ALL APPROACHING LANES TO INCREASE VISIBILITY OR THE RAISED CROSSWALK SHALL BE INSTALLED USING CONTRASTING PAVEMENT TO THE ROAD SURFACE.
3. IF DOUBLE YELLOW LINE IS PRESENT ON ROADWAY, THE LINES SHALL TERMINATE AT THE END OF THE ELEVATION TRANSITION FOR THE CROSSWALK ON EITHER SIDE FOR HOT MIX ASPHALT RAISED CROSSWALKS OR AT THE BEGINNING OF THE ELEVATION TRANSITION FOR RAISED CROSSWALKS MADE OF CEMENT CONCRETE OR OTHER MATERIALS.
4. IF INSTALLED AT AN INTERSECTION, RAISED CROSSWALK SHALL TRANSITION TO BE FLUSH WITH THE ROADWAY SURFACE BEFORE ENTERING THE INTERSECTION.
5. SEE SHEET 2 FOR CROSSWALK MARKING DETAILS.



RAISED CROSSWALK SIGNS DETAIL



RAISED CROSSWALK ASSEMBLY DETAIL

GENERAL NOTES

1. PEDESTRIAN CROSSING ASSEMBLY (SEE PAGE 2) SHALL BE INSTALLED AT THE CROSSING.
2. TEXT ON SP-7 IS A CUSTOM SIGN, COMPLIANT WITH THE CURRENT MUTCD, AND SHALL REQUIRE APPROVAL BY CITY ENGINEER.
3. W13-1P ADVISORY SPEED SHALL BE DETERMINED BY CITY ENGINEER.
4. SIGN DESIGNATION FOR W13-1P PER 2009 MUTCD.

DESIGN REFERENCES

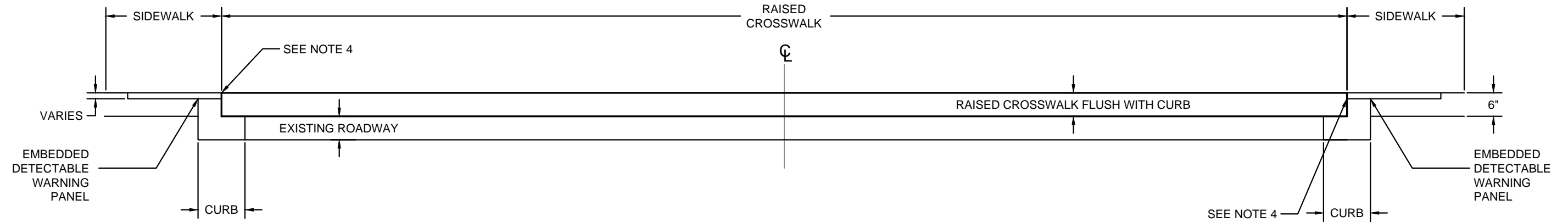
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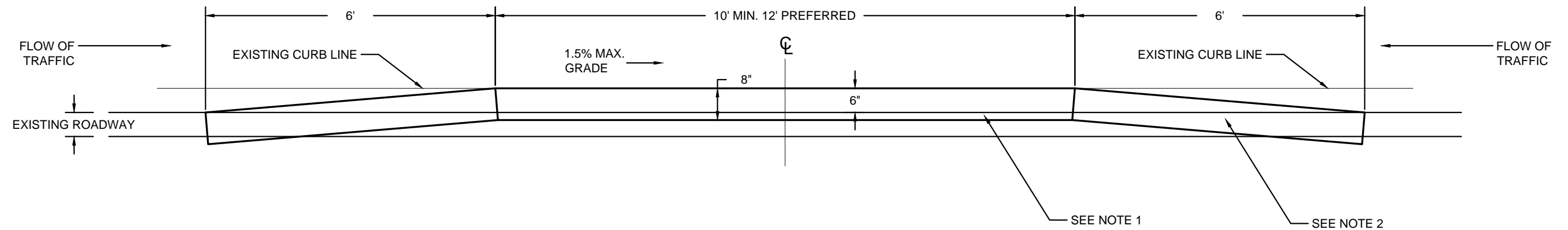
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MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (2014). CONSTRUCTION STANDARD DETAILS.



SECTION C-C
SEE SHEET 12



SECTION D-D
SEE SHEET 12

GENERAL NOTES

1. FOR CEMENT CONCRETE RAISED CROSSWALKS, HOT MIX ASPHALT SHALL BE REMOVED FOR THE SPLICE RECESS AS DETAILED.
2. THERE SHALL BE A 2" MILLING OF PAVEMENT UNDER THE CROSSWALK AREA.
3. FOR HOT MIX ASPHALT RAISED CROSSWALKS, ASPHALT SHALL BE LAID TO MEET THE CURB LINE FOR THE CROSSWALK AREA AND TRANSITION TO THE EXISTING ROAD ELEVATION. PER MASSDOT HIGHWAY DESIGN MANUAL 16.7.2, 6' STRAIGHT TRANSITION SHALL BE USED FOR RAISED CROSSWALKS.
4. EMBEDDED DETECTABLE WARNING DEVICES SHALL BE INSTALLED ON THE ROADSIDE CURB-EDGE, TOWARDS THE SIDEWALK, AS DETAILED. SEE PAGE 7 FOR DETECTABLE WARNING PANEL DETAILS.

DESIGN REFERENCES

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (2004). GUIDE FOR THE PLANNING, DESIGN, AND OPERATION OF PEDESTRIAN FACILITIES.

FEDERAL HIGHWAY ADMINISTRATION (2009 OR MOST RECENT). MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES & MASSDOT AMENDMENTS.

US DEPARTMENT OF JUSTICE (2010). ADA STANDARDS FOR ACCESSIBLE DESIGN.

MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (2006). RULES AND REGULATIONS.

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (2014). CONSTRUCTION STANDARD DETAILS.

**Massachusetts Department of Transportation
Highway Division
Main Street Complete Street Redesign
Northampton, MA**

MassDOT Proj. #XXXXXX

January 2017

**Computed By: BMB
Checked By: TD**

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	COST
120.	3,440	CY	EARTH EXCAVATION	\$25.00	\$86,000.00
129.*	16,500	SY	PAVEMENT MILLING	\$5.00	\$82,500.00
141.1	210	CY	TEST PIT FOR EXPLORATION	\$75.00	\$15,750.00
142.	70	CY	CLASS B TRENCH EXCAVATION	\$25.00	\$1,750.00
146.	18	EA	DRAINAGE STRUCTURE REMOVED	\$400.00	\$7,200.00
151.	4,450	CY	GRAVEL BORROW	\$35.00	\$155,750.00
153.*	300	CY	CONTROLLED DENSITY FILL - EXCAVATABLE	\$130.00	\$39,000.00
156.	27	TON	CRUSHED STONE	\$50.00	\$1,350.00
170.*	15,000	SY	FINE GRADING AND COMPACTING	\$4.00	\$60,000.00
201.	35	EA	CATCH BASIN	\$3,000.00	\$105,000.00
202.	20	EA	MANHOLE	\$3,000.00	\$60,000.00
220.*	10	EA	DRAINAGE STRUCTURE ADJUSTED	\$400.00	\$4,000.00
221.*	43	EA	FRAME AND COVER	\$750.00	\$32,250.00
222.*	35	EA	FRAME AND GRATE	\$800.00	\$28,000.00
241.15	500	FT	15 INCH REINFORCED CONCRETE PIPE	\$70.00	\$35,000.00
358.	20	EA	GATE BOX ADJUSTED	\$200.00	\$4,000.00
381.3	10	EA	SERVICE BOX ADJUSTED	\$150.00	\$1,500.00
402.	375	CY	DENSE GRADED CRUSHED STONE FOR SUB-BASE	\$70.00	\$26,250.00
460.*	2,200	TON	HOT MIX ASPHALT	\$125.00	\$275,000.00
464.	2,300	GAL	BITUMEN FOR TACK COAT	\$9.00	\$20,700.00
506.	3,100	FT	GRANITE CURB TYPE VB - STRAIGHT	\$35.00	\$108,500.00
506.1	1,300	FT	GRANITE CURB TYPE VB - CURVED	\$40.00	\$52,000.00
509.	480	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - STRAIGHT	\$40.00	\$19,200.00
509.1	100	FT	GRANITE TRANSITION CURB FOR WHEELCHAIR RAMPS - CURVED	\$50.00	\$5,000.00
509.2*	125	FT	GRANITE TRANSITION CURB FOR MEDIAN - STRAIGHT	\$40.00	\$5,000.00
514.	25	EA	GRANITE CURB INLET - STRAIGHT	\$400.00	\$10,000.00
515.	5	EA	GRANITE CURB INLET - CURVED	\$500.00	\$2,500.00
580.	2,000	FT	CURB REMOVED AND RESET	\$25.00	\$50,000.00
594.	3,850	FT	CURB REMOVED AND DISCARDED	\$6.00	\$23,100.00
697.	640	FT	SEDIMENTATION FENCE	\$5.00	\$3,200.00
701.*	11,050	SY	CEMENT CONCRETE SIDEWALK	\$60.00	\$663,000.00
701.1*	300	SY	CEMENT CONCRETE SIDEWALK AT DRIVEWAY	\$75.00	\$22,500.00
701.2*	300	SY	CEMENT CONCRETE WHEELCHAIR RAMP	\$100.00	\$30,000.00
706.01*	1,550	SY	BRICK ACCENT IN SIDEWALK	\$225.00	\$348,750.00
706.9*	1,250	SY	TEXTURIZED DECORATIVE PAVEMENT	\$30.00	\$37,500.00
706.X1	1,150	SY	UNIT PAVER MEDIAN	\$250.00	\$287,500.00
706.X2	750	SY	UNIT PAVER DECORATIVE INTERSECTION	\$250.00	\$187,500.00
707.1*	10	EA	PARK BENCH	\$2,000.00	\$20,000.00
707.2*	10	EA	TRASH RECEPTACLE	\$1,200.00	\$12,000.00
707.9*	5	EA	BICYCLE RACK	\$1,500.00	\$7,500.00
707.X*	2,300	CY	STRUCTURAL SOIL FOR STREET TREES	\$50.00	\$115,000.00
740.*	15	MO	ENGINEERS FIELD OFFICE AND EQUIPMENT (TYPE A)	\$2,200.00	\$33,000.00
745.*	3	EA	PEDESTRIAN BUS SHELTER	\$5,000.00	\$15,000.00
748.	1	LS	MOBILIZATION	\$106,800.00	\$106,800.00
756.*	1	LS	NPDES STORMWATER POLLUTION PREVENTION PLAN	\$5,000.00	\$5,000.00
767.8	160	EA	BALES OF HAY FOR EROSION CONTROL	\$10.00	\$1,600.00

**Massachusetts Department of Transportation
Highway Division
Main Street Complete Street Redesign
Northampton, MA**

MassDOT Proj. #XXXXXX

January 2017

**Computed By: BMB
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ITEM NO.	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	COST
78X.XXX*	125	EA	STREET TREES - 4 INCH CALIPER	\$1,000.00	\$125,000.00
816.01*	1	LS	TRAFFIC SIGNAL RECONSTRUCTION LOCATION NO. 1	\$40,000.00	\$40,000.00
832.	500	SF	WARNING-REGULATORY AND ROUTE MARKER - ALUM. PANEL (TYPE A)	\$15.00	\$7,500.00
850.41*	105	HR	ROADWAY FLAGGER	\$50.00	\$5,250.00
851.	326	UD	SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS	\$100.00	\$32,600.00
852.	700	SF	SAFETY SIGNING FOR CONSTRUCTION OPERATIONS	\$20.00	\$14,000.00
853.1	20	EA	PORTABLE BREAKAWAY BARRICADE TYPE III	\$130.00	\$2,600.00
854.014	19,300	FT	TEMPORARY PAVING MARKINGS - 4 IN. (PAINTED)	\$0.50	\$9,650.00
854.034	500	FT	TEMPORARY PAVEMENT MARKINGS - 4 IN. (REMOVABLE TAPE)	\$1.50	\$750.00
854.1	500	SF	PAVEMENT MARKING REMOVAL - PAINT	\$1.00	\$500.00
854.3	200	SF	PAVEMENT MARKING REMOVAL - TAPE	\$1.00	\$200.00
103.*	15	EA	TREE REMOVED - DIAMETER UNDER 24 INCHES	\$1,500.00	\$22,500.00
856.	750	UD	SPECIAL LIGHTING UNIT (FLASHING ARROW)	\$10.00	\$7,500.00
856.12	30	UD	PORTABLE CHANGEABLE MESSAGE SIGN	\$25.00	\$750.00
859.	50,250	DD	REFLECTORIZED DRUM	\$0.25	\$12,562.50
860.12	1,600	FT	12 INCH REFLECTORIZED WHITE LINE (PAINTED)	\$1.50	\$2,400.00
864.	850	SF	PAVEMENT ARROW REFLECTORIZED WHITE (PAINTED)	\$2.00	\$1,700.00
864.04	850	SF	PAVEMENT ARROWS AND LEGENDS REFL. WHITE (THERMOPLASTIC)	\$6.00	\$5,100.00
865.1	1,600	SF	CROSS WALKS AND STOP LINES REFL. WHITE (THERMOPLASTIC)	\$2.00	\$3,200.00
865.X	3,900	SF	CROSS WALKS GREEN (THERMOPLASTIC)	\$20.00	\$78,000.00
866.04	13,500	FT	4 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC)	\$0.50	\$6,750.00
867.04	5,200	FT	4 INCH REFLECTORIZED YELLOW LINE (THERMOPLASTIC)	\$0.50	\$2,600.00
999.XXX	1,800		UNIFORMED TRAFFIC OFFICER CONTROL	\$40.00	\$72,000.00
				Subtotal:	\$3,665,262.50
				10% Construction Engineering:	\$366,526.25
				Utilities:	\$500,000.00
				Subtotal:	\$4,531,788.75
				15% Construction Contingency:	\$679,768.31
				Total:	\$5,211,557.06
				5% Inflation (2 years):	\$534,184.60
				Grand Total (2018):	\$5,745,741.66

*-Denotes item has special provision

Assumptions:

1. No proposed lighting included in cost
2. Mobilization is assumed to be 3% of cost
3. No full depth roadway reconstruction
4. Cost estimate does not include Main/South/State intersection (assumed to be a separate project)



Urban, Rural and Suburban Complete Streets Design Manual

FOR THE CITY OF NORTHAMPTON AND COMMUNITIES IN
HAMPSHIRE COUNTY

January 2017



Prepared by:
Alta Planning + Design

722 Cambridge Street
Cambridge, MA 02141



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This project was made possible by a 1422 grant from the MA Department of Public Health, using federal CDC funding. Additional funding for graphics came from Cooley Dickinson Hospital. In-kind support from the City of Northampton and Healthy Hampshire / Mass in Motion was critical to the project.

Disclaimer:

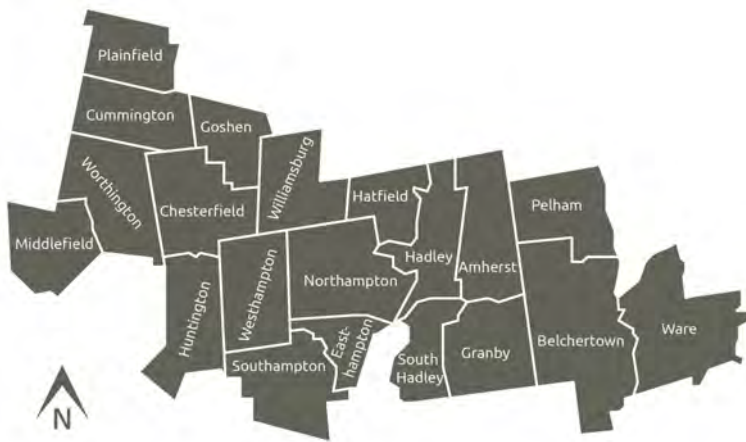
The guidelines here are designed to spark community discussion, but stronger measures to encourage complete streets are encouraged. The City of Northampton has, in many cases, adopted clear complete streets requirements that meet or exceed the standards in this manual. For example, the Northampton subdivision regulations require wider tree belts, concrete sidewalks on both sides of new roads, and narrower street entrances. The City's stricter standards are highly desirable and we endorse that approach.

INTRODUCTION

This Complete Streets Design Manual is intended for use by the City of Northampton and all communities throughout Hampshire County.

Goal

The overall goal of the document is to provide a design guide and manual for local planners, engineers and advocates to improve the walkability and bikability of roadways within their communities and create more safer streets for users of all ages and abilities. Another goal is to help bring County-wide consistency to the design of some bicycle and pedestrian facilities that are likely to be incorporated into redesigned streets in cities, towns and villages. The document is the product of a collaborative effort between the City of Northampton, Healthy Hampshire, the Pioneer Valley Planning Commission, consultants Alta Planning + Design, and local planning and public works staff from various Hampshire County communities.



Hampshire County, Massachusetts

Recommendations

The design recommendations provided here are not intended to impose hard-and-fast “standards,” but instead, to offer consistent guidance for what can sometimes be challenging design and engineering options.

The following are **guiding principles** for the design recommendations found in this manual

- Whether in an urban, suburban or rural context, the walking and bicycling environment should be safe, with minimal conflicts between users.
- The pedestrian and bicycle network will be made accessible with sidewalks, shared-use paths, bike routes and crosswalks enhancing the mobility of residents of all ages and abilities.
- Compared with roadway investments, pedestrian and bicycle network improvements are economically efficient for both initial capital cost and maintenance.
- In aggregate, the facilities in this manual will help to calm traffic and lead to greater safety for all users due to lower traffic speeds, especially on local residential streets.*
- Design guidelines are flexible and should be applied using professional engineering judgment; this document should complement other resources considered during a design process, and in all cases sound engineering judgment must be used.
- Land-use patterns that encourage pedestrian and bicycle activity on the street is as important to developing complete streets as the infrastructure guidelines provided throughout this manual. Land use patterns, uses, and development styles are key to getting the critical mass of walkers and cyclists to create thriving and sustainable communities.

*The legislature’s municipal modernization act of 2016 permits communities to lower speed limits on local roads from 30 to 25 MPH, and 20 MPH in special “safety zones”. Communities in Hampshire County should consider this option as an additional tool to create safer streets.

GUIDANCE FRAMEWORK

The sections that follow serve as an inventory of key pedestrian and bicycle roadway design treatments and provide guidelines for their development. These treatments are important because they represent the tools for creating a pedestrian and bicycle-friendly, safe, accessible community. The guidelines are not, however, a substitute for a more thorough evaluation by a landscape architect or engineer upon implementation of facility improvements. They are very general in nature and further analysis and professional engineering judgement will be required

to accommodate local conditions, including community concerns, topography, cost issues, R.O.W. availability, permitting challenges, and funding opportunities. The following standards and guidelines are referred to in this manual.

Guidance

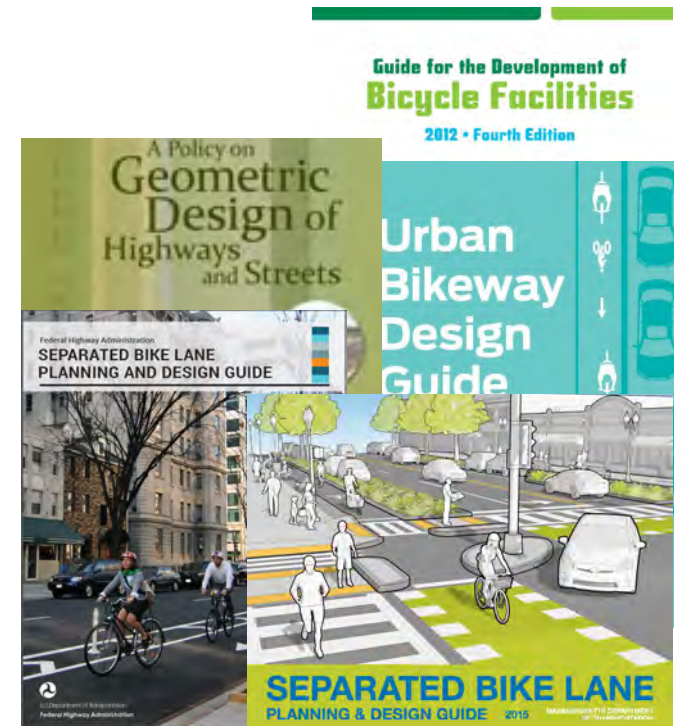
American Association of State Highway and Transportation Officials (AASHTO) **Guide for the Development of Bicycle Facilities** (2012), provides guidance on dimensions, use, and layout of specific bicycle facilities. The AASHTO **Guide for the Planning, Design, and Operation of Pedestrian Facilities** (2004) offers the same guidance for designing for pedestrians.

The National Association of City Transportation Officials' (NACTO) **Urban Bikeway Design Guide** (2012) and **Urban Street Design Guide** (2013) **Urban Transit Street Design Guide** (2015) offers guidance on the current state of the practice designs.

The AASHTO **A Policy on Geometric Design of Highways and Streets** (2011) commonly referred to as the “Green Book,” contains the current design research and practices for highway and street geometric design.

The FHWA **Separated Bike Lane Planning and Design Guide** (2015) provides federal endorsement of physically separated bike lanes and preferred design standards.

Locally in Massachusetts, the MassDOT **Project Development and Design Guide** (2006) and the **Separated Bike Lane Planning and Design Guide** (2015) offers considerations and strategies for the development of traffic calming elements, pedestrian facilities and separated bike lanes.



PEDESTRIAN FACILITIES

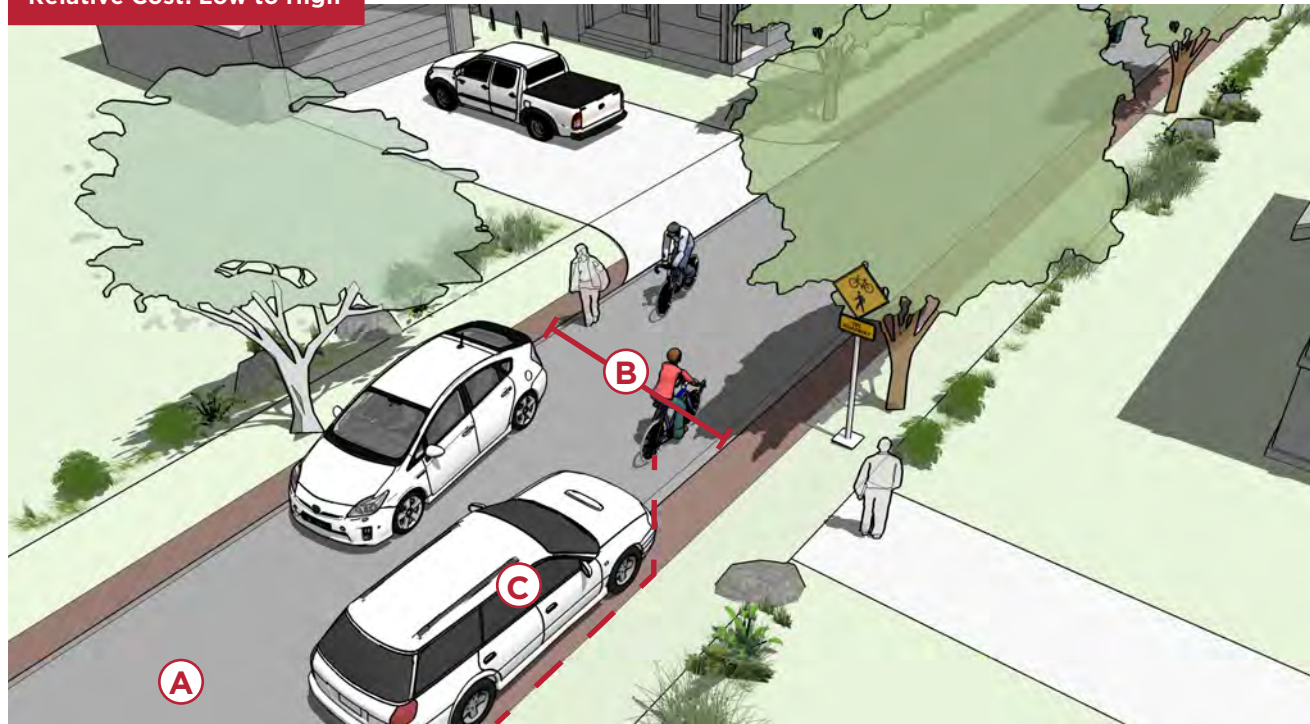


PEDESTRIAN FACILITIES

LOCAL SHARED ROADWAY

A local shared roadway (AKA, yield street) is a simple road designed to serve pedestrians, bicyclists and motor vehicle traffic within the roadway. Shared roadways are only appropriate where sidewalks are not feasible, practical or desirable or where very aggressive traffic calming measures are implemented. The facility can serve local traffic volumes and maintain aesthetic preferences, and should be considered the typical form for residential local roads in a variety of urban, suburban or rural contexts.

Relative Cost: Low to High



Typical Application

- On low volume roads, particularly near residential land uses where most traffic is familiar with prevailing road conditions, or on any roadway where the infrastructure is aggressive enough to prevent speeds exceeding 15 mph.
 - Most appropriate on very-low volume roads with ≤ 400 vehicles per day.
 - May operate on volumes up to 1,000 ADT (Average Daily Trips). Beyond this threshold, pedestrians shy away from the roadway due to traffic intensity.
 - Maintaining low speed motor vehicle speeds of 15 mph or less are critical for pedestrian safety and comfort.
 - If speeds or volumes are too high, access management and speed reduction tools should be used to create comfortable conditions.
- 4** • See following sections for other aggressive measures to control speeds.

Design Features

- A** No center lane should be marked, which creates traffic “friction” from two-way traffic operating within one bidirectional travel area.
- B** A travel area width of 12 to 18 ft (3.6 – 5.5 m) is appropriate for low volumes ($<1,000$ ADT) of two-way traffic and may require queuing or slowing when motor vehicles pass each other.
- C** Narrow road widths ≤ 14 ft (4.2 m) will require regular pull-out areas to allow for infrequent meeting and passing events between motor vehicles. Pull out areas may be established in the parking lane, driveway or roadside area.

Local Shared Roadway

Simple unlaned local roads can support pedestrian travel within the roadway. If pedestrian travel is intended, the roadway should meet accessibility requirements for surface stability, friction and, cross slope.

Local Shared Roadway

This recently constructed roadway in a suburban neighborhood is designed to work for all road uses, without separation.

Further Considerations

- When operating at very-low volumes, pedestrians may be comfortable walking within the travel area of the roadway. As volumes increase, consider providing a sidewalk for increased pedestrian comfort. (AASHTO 2011)
- Trees should be planted within the roadside area at regular intervals to visually and physically narrow the corridor, add to the aesthetic, and encourage slow speeds.
- Edge lines are optional and can help to further slow traffic by giving the perception of a narrower road way.
- Access for fire trucks and emergency vehicles should be provided. This requires adequate width along the road for an emergency response vehicle, and frequent opportunity to park and access equipment from the vehicle. There is no single fire code standards for local roads, however an acceptable range of clear roadway for parking/deploying fire department apparatus is between 16 and 20 ft (5.0 – 6.0 m) (ODOT, 2000). Designers should provide an opening of this width every 200-300 feet (Burden 2000).

Maintenance

Local shared roadways have minimal maintenance costs due to limited paved surface. Part of complying with ADA is providing adequate maintenance. The clear widths should remain free and clear of obstructions, including snow, ice, and debris. (Title 28 CFR Sec. 35.133)

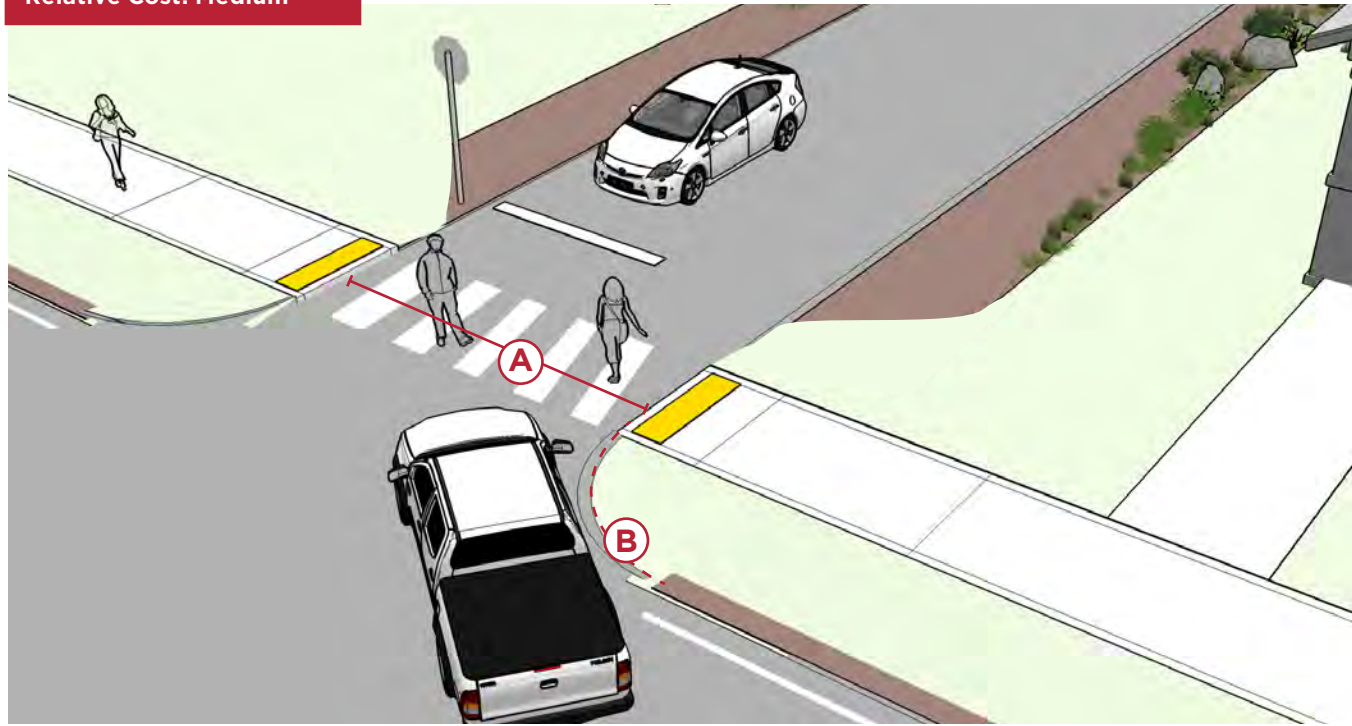
References

- American Association of State Highway and Transportation Officials. A Policy on Geometric Design of Highways and Streets. 2011.
- Burden, Dan & Zykofsky, Paul. Emergency Response: Traffic Calming and Traditional Neighborhood Streets. 2000.
- Oregon Department of Transportation (ODOT). Neighborhood Street Design Guidelines: An Oregon Guide for Reducing Street Widths. 2000.

LOCAL STREET ENTRANCES

The entrance to a neighborhood should signal to motorists that they are entering a slow-speed, residential district where children may be playing and pedestrians may be present.

Relative Cost: Medium



Typical Application

- Key connections into neighborhood districts from busy streets.

Design Features

- A** The width of the street entrance should be reduced to 20 ft maximum from road edge to road edge.
- B** A small corner radius of 10 - 15 ft should be used to require slow turning speeds.
 - The crosswalk may be configured as a raised crossing, to further slow entering vehicles.

Maintenance

Landscaping and trees should be maintained to provide clear sight triangles in advance of intersections.

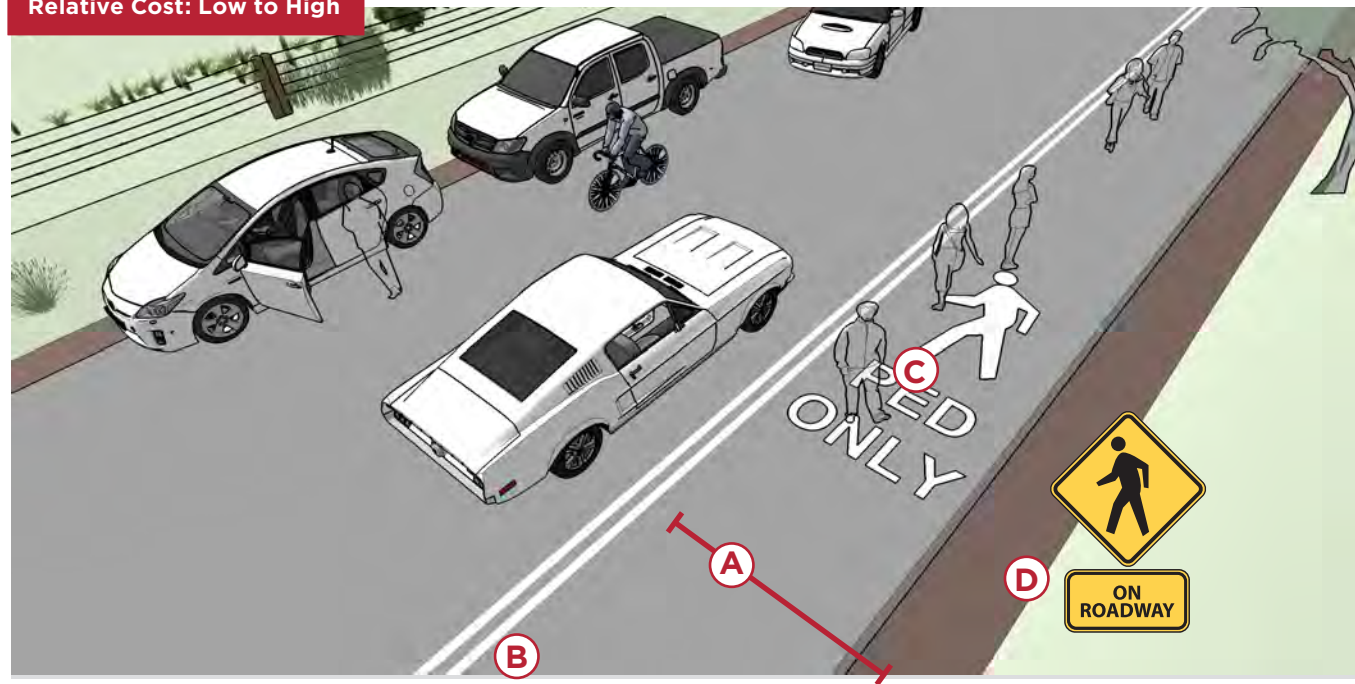
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PEDESTRIAN FACILITIES

PEDESTRIAN LANE

A pedestrian lane is a low-cost alternative to a separated path or sidewalk and is appropriate on roads with moderate speeds and volumes. Though less effective than a sidewalk, the lane provides a space for pedestrians to walk and separated from motor vehicle traffic by roadway striping.

Relative Cost: Low to High



Typical Application

- Pedestrian lanes are appropriate where sidewalks are not feasible, practical, or desirable, or where aggressive traffic calming measures are implemented.
- As an affordable alternative to a sidewalk on lower volume roadways. In some suburban and rural communities, sidewalks may not be the appropriate pedestrian facility choice, due to right of way constraints, storm water infrastructure, economic impacts, or other reasons.
- Crosswalks should be considered at intersecting streets, per the discretion of the roadway engineers.
- To accommodate vehicle traffic and pedestrians, roadway width must be 20' minimum on low volume roads, <1,000 ADT and 28' for ADT >1,000.

Design Features

- Pedestrian lane width of 8 feet is preferred, 5 foot minimum; use of colored asphalt or paint can be used to enhance differentiation.
- A pedestrian lane must be separated from the adjacent travel lanes with some form of lane delineation, such as a 6"-8" white line or a double 4" white line. A marked buffer may also be used to provide additional separation.
- Pedestrian lanes should be marked with the appropriate pavement legend markings in white color, positioned laterally in the center of the lane (MUTCD, 2009, p. 415).
- Pedestrian Warning Sign (W11-2) paired with an "ON ROADWAY" legend sub plaque may be used to indicate to drivers to expect pedestrians within the paved road surface.

Pedestrian Lane



A painted pedestrian lane provides designated space for walking when there is no sidewalk available. In this photo, the bike lane enhances the pedestrian lane as a type of buffer separation.



Thick lane line markings discourage encroachment into the pedestrian lane space.

Further Considerations

- In some instances sufficient space to provide a pedestrian lane may already exist or may be created through configuration changes including removing or consolidating on-street parking, or narrowing of travel lanes. Implementing pedestrian lanes may share some strategies with the implementation of bicycle lanes (FHWA Resurfacing Guide, 2016), such as widening a roadway to accommodate both, or incorporating bike and pedestrian facilities into a roadway reconstruction project.
- Although sidewalks are preferable if funding exists, there are documented safety benefits of providing striped shoulders >4' in width. A 2002 study by McMahon, Zeager, Duncan, Knoblauch, Stewart, and Khattak found that the presence of either a sidewalk or shoulder (min. 4' wide) reduced the risk of a pedestrian "walking along roadway" crash by 88%.

Maintenance

Signage and striping require routine maintenance. Thermoplastic markings offer increased durability over conventional paint

References

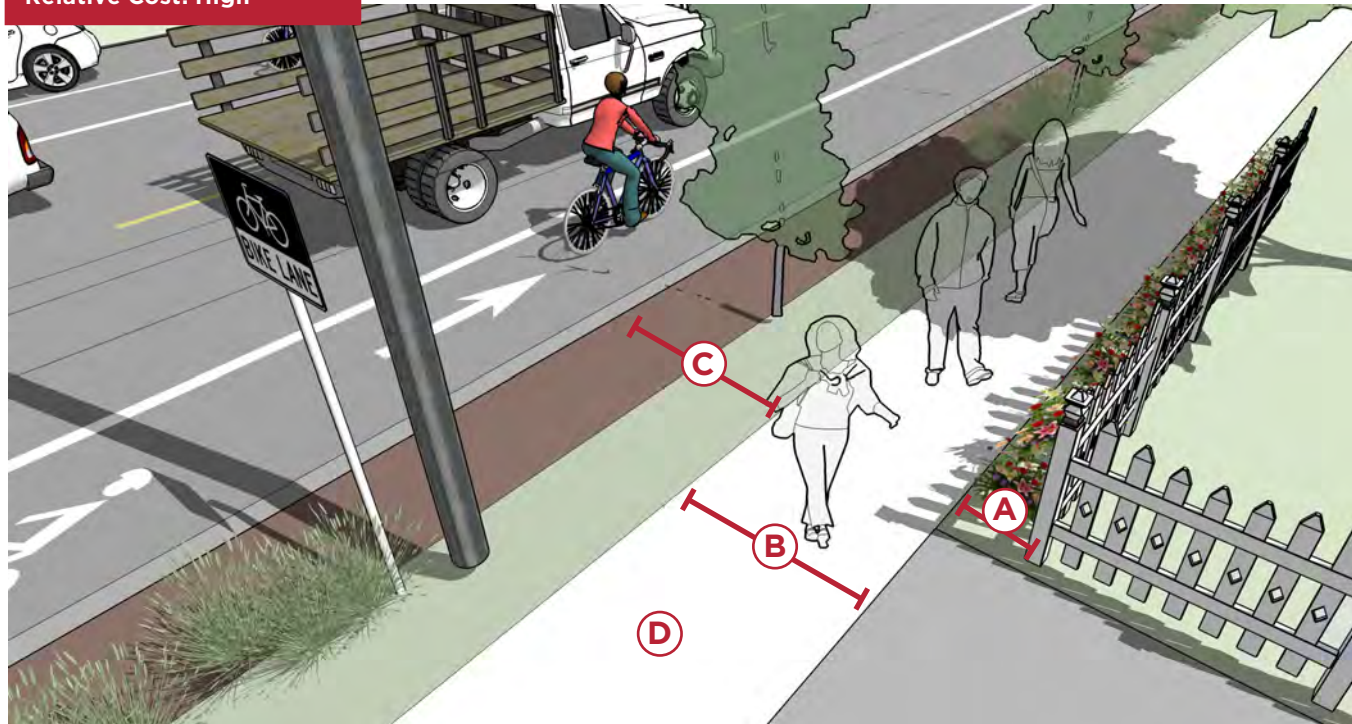
- FHWA. Incorporating On-Road Bicycle Networks into Resurfacing Projects. 2016.
- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- Pedestrian and Bicycle Information Center (PBIC), evaluation of pedestrian-related roadway measures: a summary of available research. 2014.

PEDESTRIAN FACILITIES

SIDEWALKS

Sidewalks provide a dedicated space intended for use by pedestrians that is safe, comfortable, and accessible to all. Sidewalks are physically separated from the roadway by a curb or unpaved buffer space.

Relative Cost: High

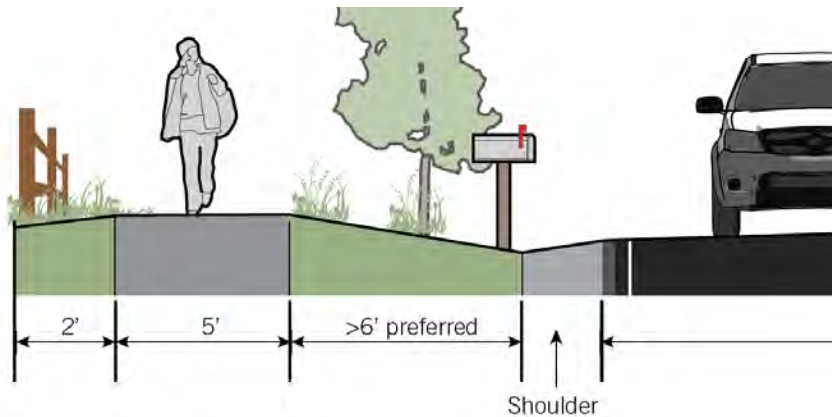


Typical Application

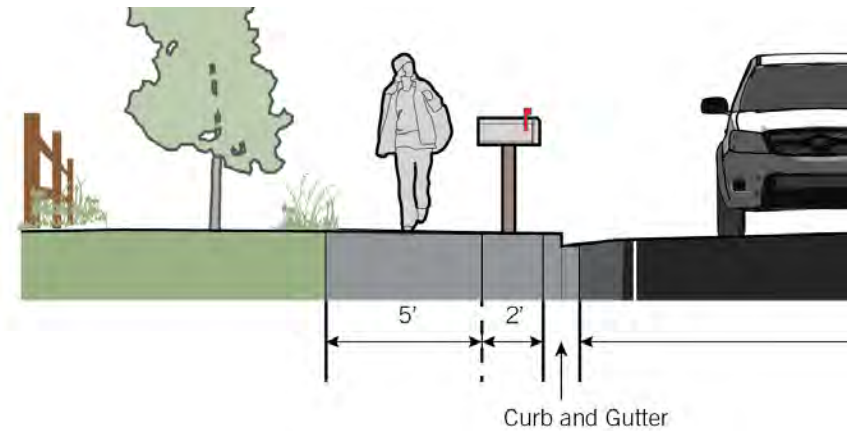
- Appropriate inside of built-up areas and population centers. May serve short distance travel between built up areas. Along or near highways in rural areas near pedestrian-generating development, such as residential development, schools, and businesses.

Design Features

- (A) Frontage Zone:** On most sidewalks, a frontage zone of 1 to 2 ft (0.3 – 0.6 m) back from the property line is recommended to provide a shy distance to fences and building walls.
- (B) Pedestrian Through Zone:** The pedestrian through zone of a sidewalk should be at least 6' wide in any commercial, mixed use, or dense residential area. (Minimum 5' wide in all other places.) This permits side-by-side walking, meeting and passing events, and meets accessibility guidelines for turning and maneuvering.
- (C) Furnishing Zone (Urban areas) / Tree Belt Zone (Residential areas):** A buffer zone of 6' (1.8 m) or more is desirable for pedestrian comfort. Where ,6' street trees should include structural soil or other elements to promote tree health.
- (D)** Sidewalks should be constructed out of concrete in any urban, commercial, mixed use, or dense residential areas. Asphalt is not durable but may be appropriate in some suburban and rural areas.

Sidewalk with Buffer Separation

Sidewalks with buffer separation are preferred for user comfort and allow for easier implementation of accessible curb ramp and driveway design.

Sidewalk with Curb Separation

Sidewalks without buffer separation may be constructed adjacent to a curb or curb and gutter combination. An additional 2 feet of paved sidewalk width should be provided so that furnishings do not encroach upon the sidewalk width.

Further Considerations

- Sidewalks may be provided on one or both sides of a street, depending on the location, the adjacent population density, and the location of pedestrian-generating destinations such as schools, parks and community centers.
- On rural arterials, sidewalks may be provided on one or both sides of the road, if demand for walking facilities exists (AASHTO Green Book, 2011, pp. 7-25).
- On arterials that travel through more urbanized and populated areas, streets “need to accommodate both vehicles and pedestrians” and should include sidewalks and crosswalks (AASHTO Green Book, 2011, pp. 7-41).
- Sidewalks may be omitted on one side of a street where that side clearly cannot be developed and where there are no existing or anticipated uses that would degenerate pedestrian trips on that side.

Maintenance

Sidewalks are typically constructed out of concrete and are separated from the roadway by a curb or gutter and sometimes a landscaped space. Colored, patterned, or stamped concrete can add distinctive visual appeal.

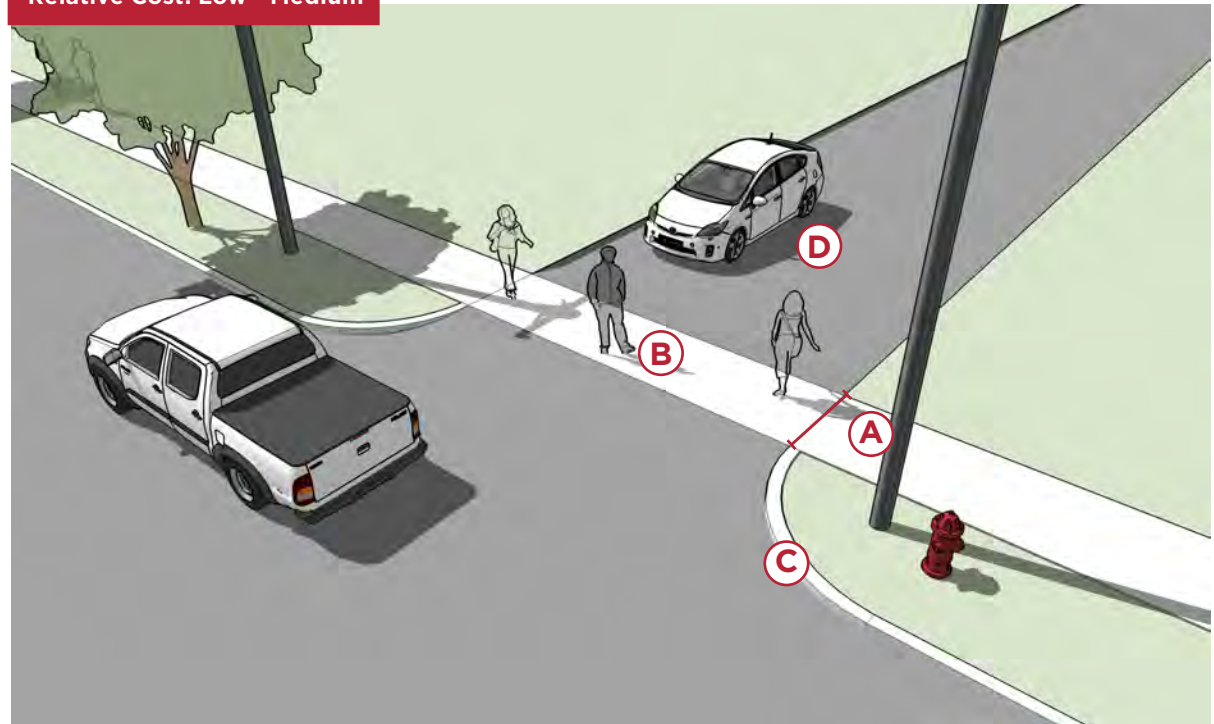
References

American Association of State Highway and Transportation Officials. A Policy on Geometric Design of Highways and Streets. 2011.

SIDEWALK DESIGN AT DRIVEWAYS

Driveways provide vehicle access to businesses and residences located along roadways. However, exiting and turning vehicles create conflict points with pedestrians along sidewalks. Driveway design details at sidewalk locations can help prioritize pedestrian movements, lower vehicle speeds and maximize visibility of all modes.

Relative Cost: Low - Medium



Typical Application

- All unsignalized driveway entrances which cross a pedestrian sidewalk.
- Driveway entrances for sidewalks running along edge of roadway or separated by a tree belt or planting strip.

Design Features

- (A) The sidewalk should maintain a minimum 4 ft continuous path along the sidewalk alignment, or providing an area adjacent to the main walk that maintains a maximum two percent cross-slope.
- (B) The portion of the sidewalk crossing any driveway should be concrete or unit pavers on a concrete base, and should maintain its height and grade to provide a physical and visual cue to motorists that they are entering a pedestrian area.
- (C) Minimize corner radii of the curb or use conventional apron-style driveways to reduce vehicle speeds,
- (D) Narrow driveway widths as much as possible to reduce pedestrian exposure.

Sidewalk Design at Driveways

This driveway uses contrasting sidewalk appropriate construction materials to indicate to drivers that they are crossing a sidewalk area.



This driveway maintains a continuous level path with an ADA compliant sidewalk width behind the driveway apron area.

Further Considerations

- Tactile warnings and crosswalk markings are an intersection design feature and should not be used on driveways. At signalized driveways that function as intersections, these elements should be included.
- The total width for two-way driveways should be a maximum of 24 ft. (14 ft. for one-way driveways) unless there is heavy truck traffic that requires wider entry points. Where driveway volumes warrant multiple lanes in each direction, providing a separating median between directions can provide a pedestrian refuge and should be incorporated. (ITE 2010)

Maintenance

Driveways should be kept free of debris. Nearby plantings and trees should be trimmed to provide clear visibility of sidewalks in advance of driveways.

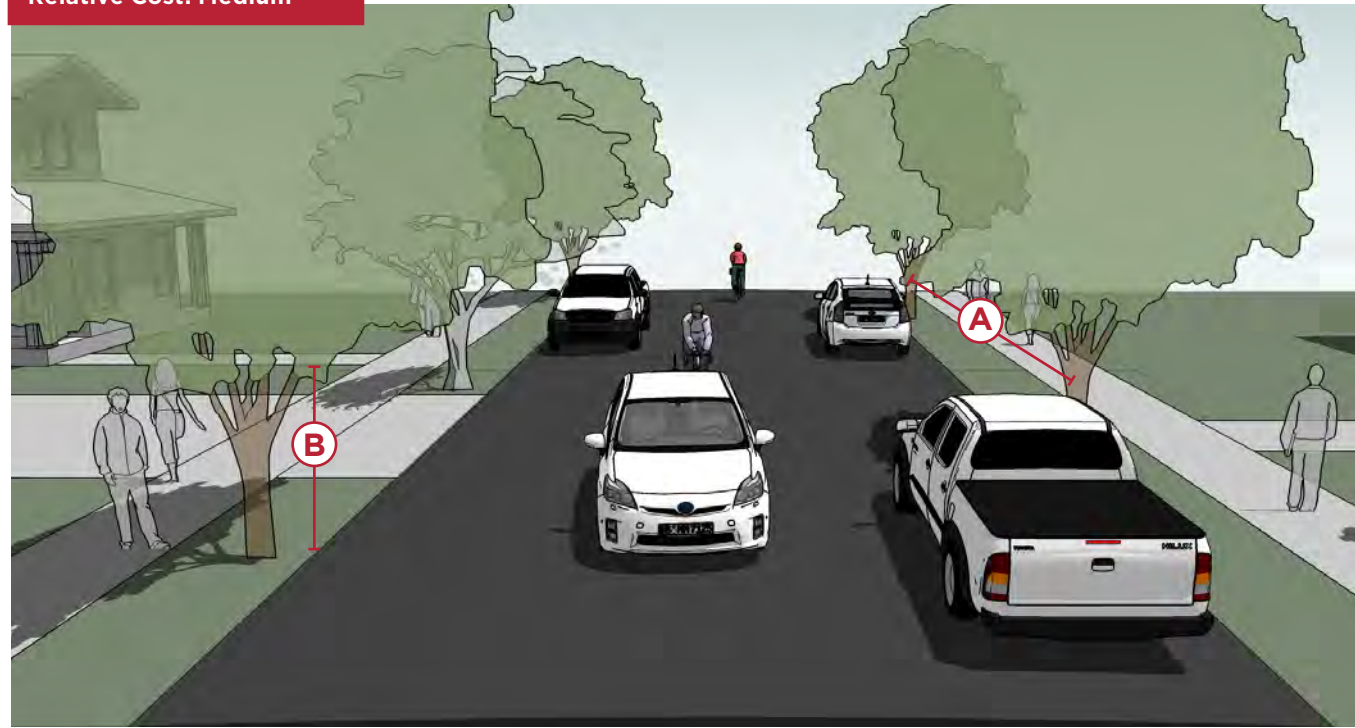
References

A Policy on Geometric Design of Highways and Streets, 6th Edition, AASHTO (2011)
 Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, ITE (2010)
 Guide for Development of Pedestrian Facilities, AASHTO (2004)
 NCHRP 659: Guide for the Geometric Design of Driveways. (2010)

STREET TREES

Allocating roadside space to street trees and landscaping helps improve the aesthetics of the streetscape, provides a buffer between the roadway and sidewalk to improve pedestrian comfort, and can facilitate stormwater management through bioretention features such as planters and swales.

Relative Cost: Medium



Typical Application

- Street trees and landscaping typically occupies the furnishing zone of the sidewalk corridor, and is most feasible when there is sufficient space to provide an adequate width pedestrian through zone.
- Residential streets and pedestrian oriented business districts are prime candidates for street trees.

Design Features

- A** Place trees every 25-30 ft to provide a continuous canopy, enhance the pedestrian experience and help slow traffic.
- B** Consider the impact of landscaping on visibility for motorists and pedestrians at driveways and intersections. AASHTO recommends a clear vision space from 3 to 10 ft (1.0 – 3.0 m) above roadway grade to facilitate proper sight distance.



Street trees create a visually-pleasing “wall” to separate the sidewalk from adjacent roadway.

Further Considerations

- On higher speed streets, small caliper trees may be used to alleviate concerns about fixed objects or visual obstructions between the roadway and the pathway. AASHTO does not classify trees that will grow to below 4 inches (100 mm) diameter as a fixed object, and trees of this width may be placed within the clear zone. Trees should, however, be placed outside of the lateral offset of roadways. (AASHTO Green Book pp. 7-6).
- Landscaping and trees may impact the visibility of sidewalk users at driveways and intersections. To promote adequate sight lines, the top of ground cover should not exceed 2 ft (0.6 m). Trees generally should be set back at least 20 to 30 ft (6.0 – 10.0 m) on the approach to intersections and commercial driveways and 10 to 20 ft (3.0 – 6.0 m) on the far side. (NCHRP 659, 2010) Set backs at residential driveways, especially for single family homes, can be reduced to 10' max.

Maintenance

Plant and tree selection can impact maintenance costs and aesthetic preferences. Select plants and tree species that are adapted to the local climate and fit the character of the surrounding area.

References

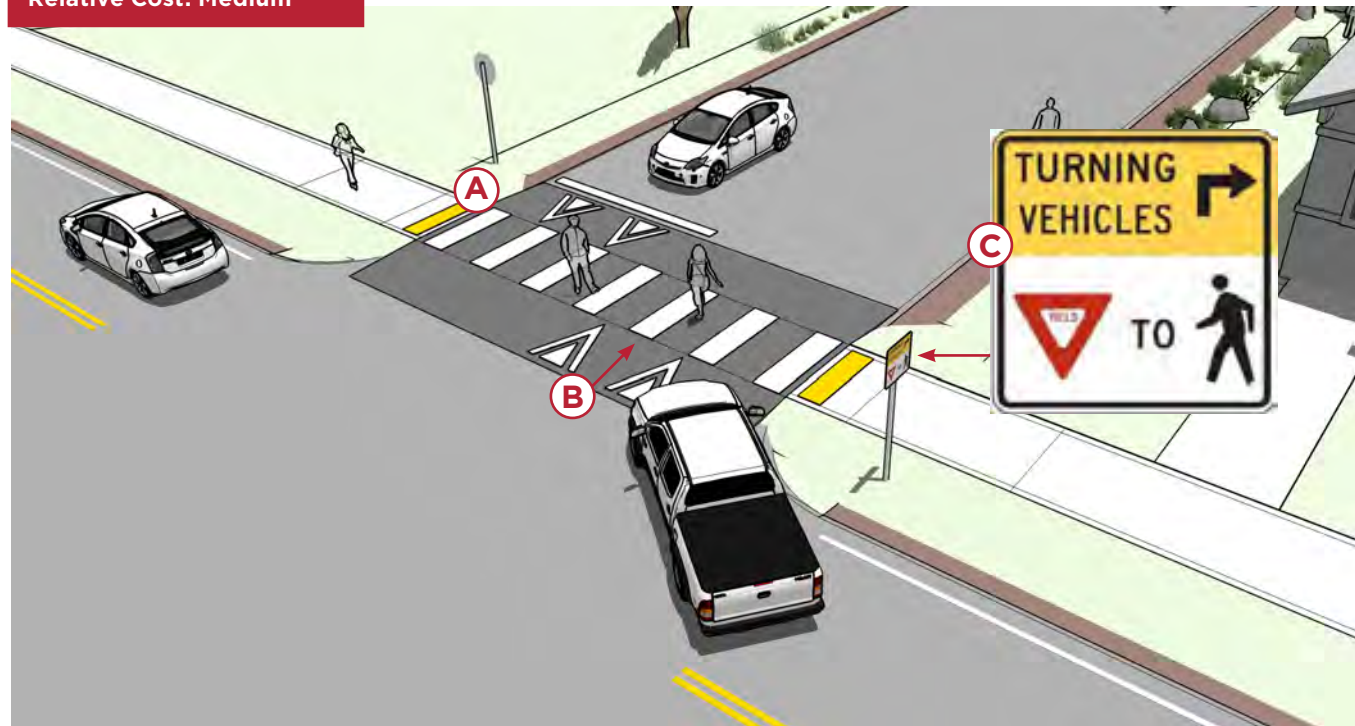
- A Policy on Geometric Design of Highways and Streets, 6th Edition, AASHTO (2011)
- Guide for Development of Pedestrian Facilities, AASHTO (2004)
- NCHRP 659: Guide for the Geometric Design of Driveways. (2010)

PEDESTRIAN FACILITIES

RAISED CROSSWALK

A raised crosswalk can eliminate grade changes along the sidewalk and give pedestrians greater prominence as they cross the street. Raised crosswalks should be used where there is moderate to high pedestrian volumes and / or safety concerns.

Relative Cost: Medium



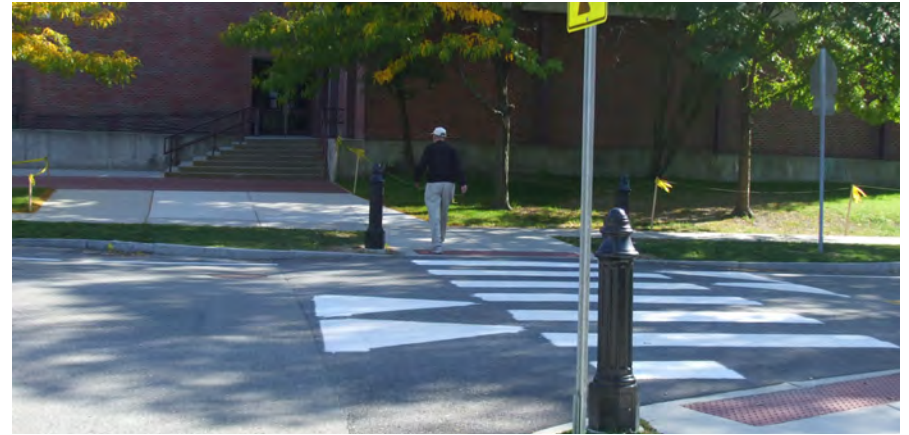
Typical Applications

- Raised crosswalks can function as a traffic calming treatment.
- Suitable for high-volume pedestrian crosswalks, especially on mixed-use/commercial streets with high multimodal priority, or where greater motorist yield compliance is desired.
- Provides greater visibility of pedestrians to approaching motorists.
- Constant crossing grade improves accessibility for pedestrians.

Design Features

- A** Use detectable warnings at the curb edges to alert vision-impaired pedestrians that they are entering the roadway.
- B** Approaches to the raised crosswalk may be designed to be similar to speed humps, which typically feature a 1:12 slope.
 - See MassDOT 2006 Project Development and Design Guide, section 16.7.2 for additional guidance.
- C** For increased awareness of the pedestrian crossing, an R10-15 sign may be used to warn turning vehicles.

Raised Crosswalks



Raised crossings can act as speed humps, slow motor vehicles in advance of sidewalk and trail crossings.

Further Considerations

- Traffic calming should be designed to minimize impacts to street cleaners. Maintenance requirements will depend on the durability of materials, such as concrete, asphalt or other paver types.
- Like a speed hump, raised crosswalks have a traffic slowing effect which may be a concern on emergency response routes.
- Raised crosswalks can also be used where a multi-use path crosses a roadway.
- It should be noted that mid-block crossings can add a false sense of security for pedestrians. Mid-block crossings should be accompanied by advance warnings and traffic calming elements (e.g. horizontal or vertical.)

Maintenance

Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority.

Drainage channels can be maintained with the use of a drainage culvert or a depression with ADA compliant curb ramps.

References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.
- MassDOT. Project Development and Design Guide, Ch 16. 2006.

PEDESTRIAN FACILITIES

CENTER ISLANDS

Center islands are raised islands located along the centerline of a street that narrow the travel lanes and/or shoulders at that location. They are sometimes called midblock medians, median slow points, or median chokers and may act as traffic calming to slow motor vehicle traffic.

Relative Cost: High**Typical Application**

- May be configured as traffic calming to slow traffic in a variety of contexts
- May be nicely landscaped to provide visual amenity and neighborhood identity
- Sometimes used on wide streets to narrow travel lanes
- Work well when combined with crosswalks

Design Features

- A Preferred width of 6 ft or greater to permit use for landscaping, gateway signs, or use as a pedestrian crossing island.
- Center islands <6 ft may be too narrow to support trees, but may support low impact landscaping.
- Islands <4 ft may function best as a hard surface. Consider pavers or stamped or colored concrete to provide aesthetic benefit.
- See MassDOT 2006 Project Development and Design Guide, section 16.5.8 for additional guidance.

Center Islands



Mid block center islands may be configured with a pedestrian crosswalk to offer safe and comfortable crossings of busy streets.



Center islands at intersections can simplify bikeway crossings of busy roadways.

Further Considerations

- Depending on placement, may reduce parking and driveway access
- Bicyclists prefer not to have the travel way narrowed into path of motor vehicles. Provide a bike lane or path outside of the travel lane to offer a separate space for bicyclists.
- Center islands are preferred by fire department/emergency response agencies to most other traffic calming measures.
- Depending on their size, center islands help reduce the amount of stormwater runoff and the overall roadway area that needs to be plowed.

Maintenance

Traffic calming should be designed to minimize impacts to streetsweepers and snow plows. Vegetation should be regularly trimmed to maintain visibility and attractiveness.

References

- AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.
- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- MassDOT. Project Development and Design Guide, Ch 16. 2006.

PEDESTRIAN FACILITIES

PARKLETS

A parklet is a seasonal or year-round outdoor space typically the size of an on-street parking space. These mini-parks are often designed for passive recreation and may include planters, benches, café tables and chairs. Additionally, parklets can be designed to include bike corrals, fitness equipment, chess boards and other activities.

Relative Cost: Medium

**Typical Application**

- Parklets can enhance commercial district or neighborhood vitality, especially in areas currently lacking public space or in locations where sidewalk space is constrained.
- The nature of a parklet will vary based on factors such as size, location, surrounding land uses and the duration of the installation. Parking availability should be considered when determining the overall benefit of parklet installation against parking loss.
- Parklets are generally located within an on-street parking lane, and does not impede motor vehicle or bicycle through travel.

Design Features

- A** Parklets are often constructed on custom or pre-fabricated platform that rests on the street pavement. This allows them to meet the grade of adjacent sidewalks, extending the pedestrian zone.
- Parklet design should comply with ADA standards and be easily accessible from the sidewalk. Avoid placement near intersections and do not block fire hydrants or bus stops.
- Parklets must be designed and located in areas so as not to restrict stormwater runoff or cause other drainage issues.



Parklets can be implemented on a trial basis using temporary materials to quickly transform a space (sometimes called a “tactical urbanism” project). Simple tables and plants create a pleasant resting environment in this parklet.



Streetscape furnishing manufacturer Dero produces a modular parklet platform for easy deployment.

Photo Source: dero.com

Further Considerations

- Because parklets may require the removal of an on-street parking space, outreach to adjacent property owners and businesses is critical.
- Most municipalities require a permitting process for both temporary and permanent parklet installations.
- Temporary or permanent placement adjacent to a crosswalk allows the parklet to function as a *de facto* curb extension and can improve pedestrian safety by shortening crossing distances.

Maintenance

In many communities parklet permit applicants, often business owners or community organizations, agree to maintain the parklet and renew the permit annually. The applicant is usually responsible for daily cleaning, sweeping, and maintenance of plants, in and around the parklet installation, for the season or indefinitely, depending on the agreement.

References

- City of San Francisco - Pavement to Parks. San Francisco Parklet Manual". 2013.
- Madeline Brozen, Anastasia Loukaitou-Sideris, Colleen Callahan. Reclaiming the Right-of-Way: A Toolkit for Creating and Implementing Parklets. UCLA Luskin School of Public Affairs. 2012.

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BIKEWAY FACILITIES



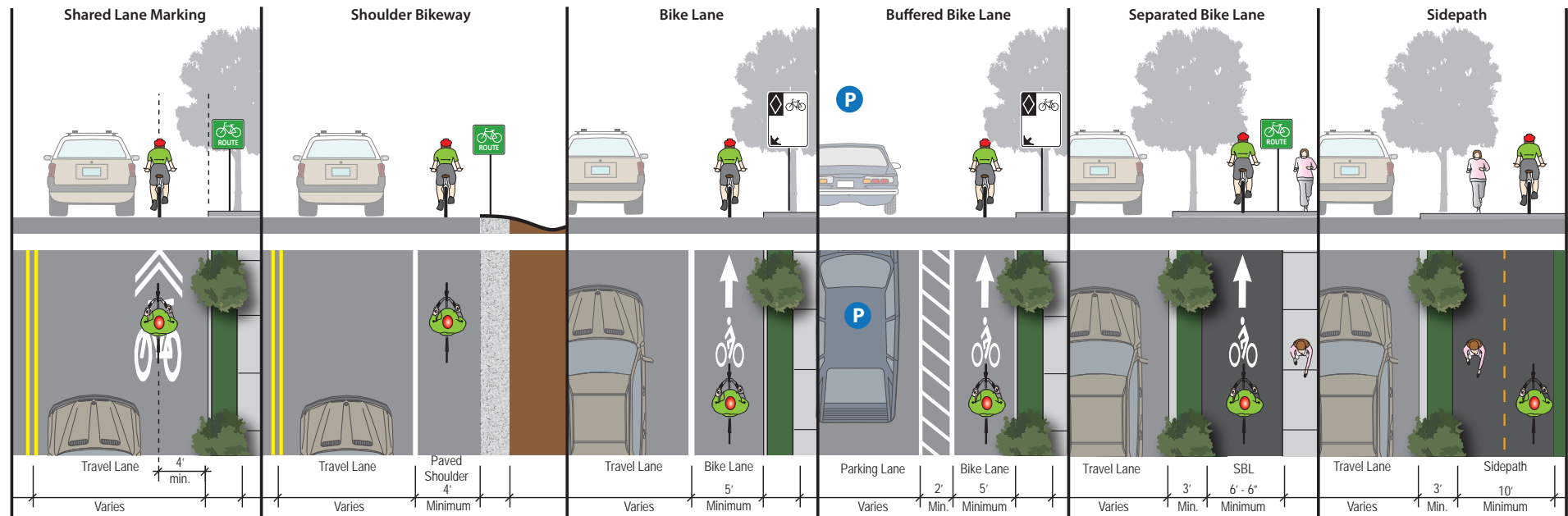
BIKEWAY FACILITY SELECTION MATRIX

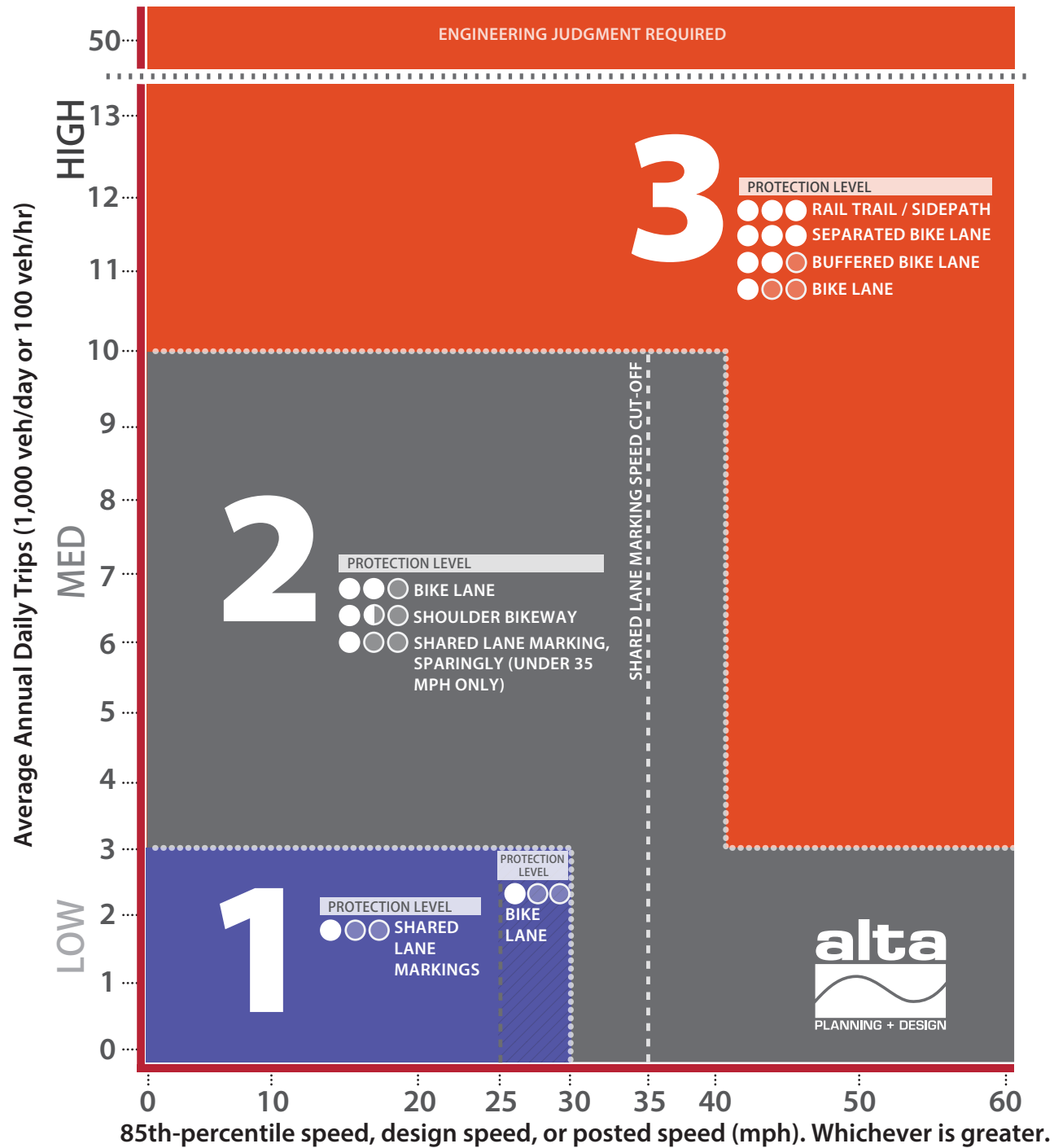
Selecting the best bikeway facility type for a given roadway can be challenging, due to the range of factors that influence the comfort and safety of bicyclists. When motor vehicle traffic volumes are large and speed is high, there is a greater level of discomfort among bicyclists.

The chart on the following page can be used as a general guideline to recommend a facility that will be comfortable for the majority of bicycle users based on motor vehicle speed and volume on the roadway. To use the chart, identify the roadway posted speed limit or the 85th percentile speed and Average Daily Trips and locate the facility types indicated by those variables.

Studies indicate that the most significant factors influencing bicycle use are motor vehicle traffic volume and speeds.

Other factors beyond speed and volume which affect facility selection include the presence and volume of heavy trucks in the traffic mix, the presence of on-street parking, intersection density, surrounding land use, topography, user needs (bicyclists commuting on a highway versus middle-school students riding to school on a residential street), and roadway sight distance. While these factors are not included in the facility selection matrix, they should be considered and weighed in the facility selection and design process.



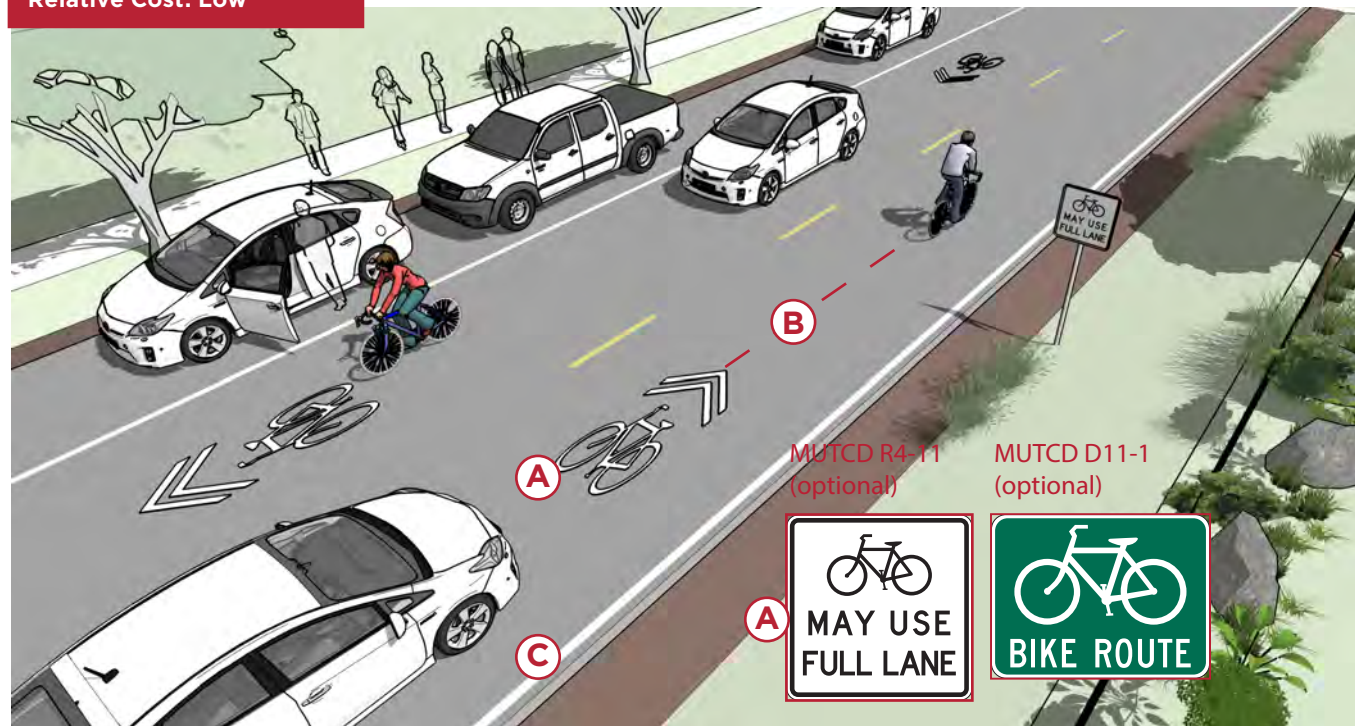


BIKEWAY FACILITIES

MARKED SHARED ROADWAYS

Marked shared roadways use shared lane markings, also known as “sharrows”, to designate a shared travel lane. Shared lane markings are used to encourage bicycle travel and proper positioning within the lane and to remind motorists of the potential presence of bicycles. These markings can be paired with “Bike May Use Full Lane” signs.

Relative Cost: Low



MUTCD R4-11
(optional)

MUTCD D11-1
(optional)



Typical Application

- For use on low speed, low volume roadways where an on-street bike lane is not needed. Low-volume is context sensitive based on adjacent land-use characteristics.
- Or for use as an interim measure where an on-street bike lane or separated bikeway is preferred, but is a longer term planning project.
- Most useful on roadways with a speed limit of 30 mph or less (NACTO 2012). Shared lane markings may be used on streets up to 35 mph.
- To fill a gap in an otherwise continuous bike path or bike lane.
- To improve the lifespan of the shared lane marking, considering an epoxy or thermoplastic application.

Design Features

- A** Shared lane markings (SLM) should be placed immediately after an intersection (MUTCD 9C.07.06) and at intervals of every 50 to 100 feet on busy streets and up to every 250 feet on low traffic bicycle routes (NACTO 2012).
- B** Although MUTCD allows the minimum distance from the curb to be 11 feet when parking is present or 4 feet from the curb when no parking is present, SLM's should be placed in the center. (Per MUTCD, the minimum distance from curb is 11 ft from curb face when parking is present, 4 ft from curb face where no parking is present.)
- C** When SLM's are placed in the center of the travel lane **and** the lane is 12' - 15' in width, an edge line should be placed 1' - 4' from edge of pavement to define an 11' wide travel lane.

Shared Lane Markings



Sharrows can be used on higher-traffic streets as positional guidance and raise bicycle awareness where there isn't space to accommodate a full-width bike lane.

Bicycle Boulevards



"Bicycle boulevards" or "neighborhood greenways" are a special type of shared roadway with intentionally low motor vehicle volumes and speeds.

Further Considerations

Signs should be used to support the marked shared roadway facility. Appropriate signs include Bike Route (D11-1) or Bicycles May Use Full Lane (R4-11).

- Bicycles may use Full Lane (R4-11) signs may be used to inform road users that bicyclists might occupy the travel lane. This sign may be used with SLM's where travel lanes are too narrow for bicyclists and motor vehicles to operate side by side.
- Bike Route (D11-1) signs may be used with bikeways to inform bicyclists of bicycle route confirmation.

Shared lane markings on busy streets should be considered an interim measure until more appropriate on-street bike lanes or sidepaths can be constructed. SLM's can be used as a wayfinding element to fill gaps in a bike lane network and/or to provide a transition between a designated bike lane and portion of roadway where bike lanes may not be warranted.

References

Placement of shared lane marking in the center of the travel lane will prevent wear and reduce maintenance needs.

References

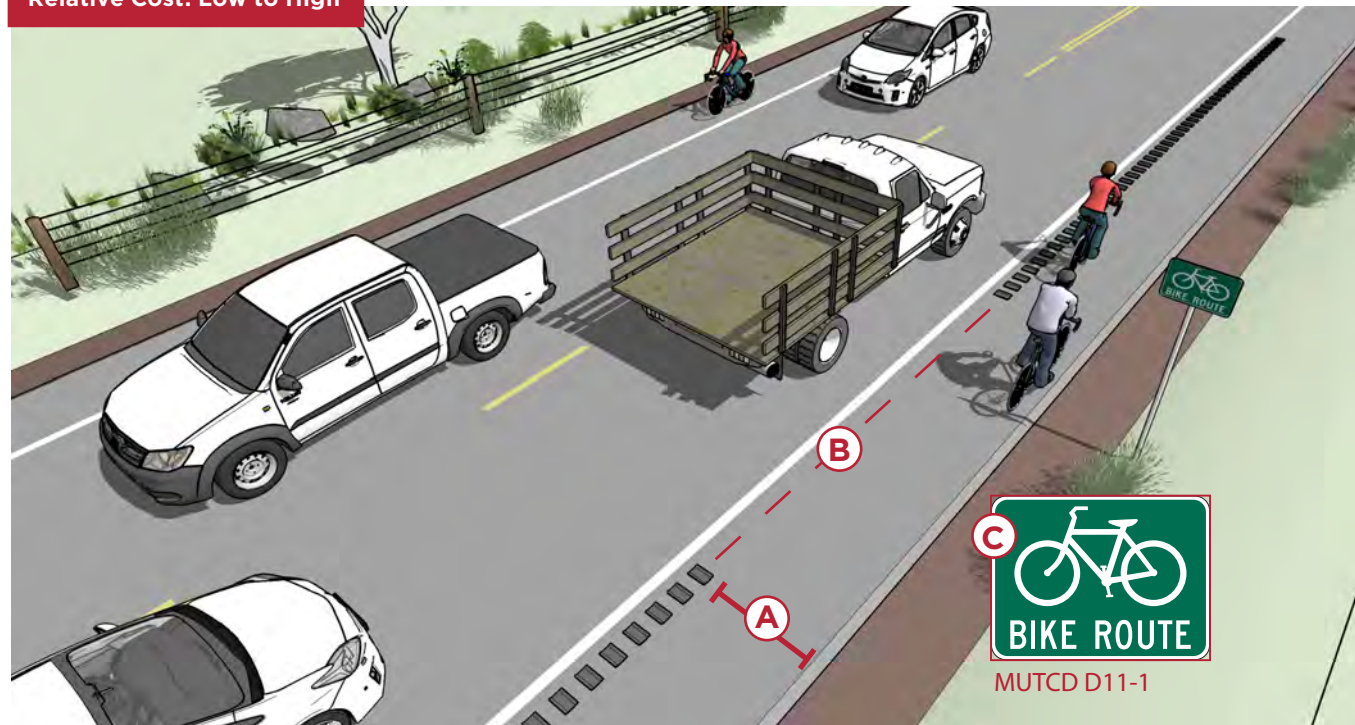
AASHTO. Guide for the Development of Bicycle Facilities. 2012.
FHWA. Manual on Uniform Traffic Control Devices. 2009.
NACTO. Urban Bikeway Design Guide. 2012.

BIKEWAY FACILITIES

**BICYCLE-
ACCESSIBLE
SHOULDER**

Typically found in less-dense areas, shoulder bikeways are paved, striped shoulders (4' min.) wide enough for bicycle travel. Shoulder bikeways may include signs alerting motorists to expect bicycle travel along the roadway.

Relative Cost: Low to High

**Typical Application**

- Located in more rural environments where there are no curbs or gutters.
- Suitable for roadways with higher speeds and lower bicycle volumes.
- Shoulder bikeways should be considered a temporary treatment, with full bike lanes planned for construction if the roadway is widened or completed with curb and gutter.

Design Features

- A** A minimum of 4 feet of rideable surface should be available for bicycle travel, (AASHTO 2012) which does not include the < 1' area closest to the roadway edge where sand and debris accumulate.
- B** Rumble strips are not recommended on shoulders used by bicyclists unless there is a minimum 4 foot clear path. 12 foot gaps every 40-60 feet should be provided to allow access as needed.
- C** MUTCD D11-1 "Bike Route" wayfinding signage is optional.

Bicycle-Accessible Shoulders



This shoulder provides 6 ft of clear width to allow for safe bicycling on a higher-speed, higher-volume roadway. (Note the bicyclist is riding away from the edge of the roadway where road sand and other debris can accumulate.)

Further Considerations

- If it is not possible to meet minimum bicycle lane dimensions, a reduced width paved shoulder can still improve conditions for bicyclists on constrained roadways; travel lane widths of 11' or less should be considered to maximize the width of the shoulder.
- If a shoulder width of 4 ft or more is consistently available for bicycle travel along the length of a corridor, the full bike lane treatment of signs, legends, and a 6"- 8" bike lane line should be provided.
- This type of treatment is not typical in urban areas and should only be used where constraints exist.

Maintenance

Shoulder bikeways should be cleared of snow through routine snow removal operations and sand and other debris through street sweeping.

References

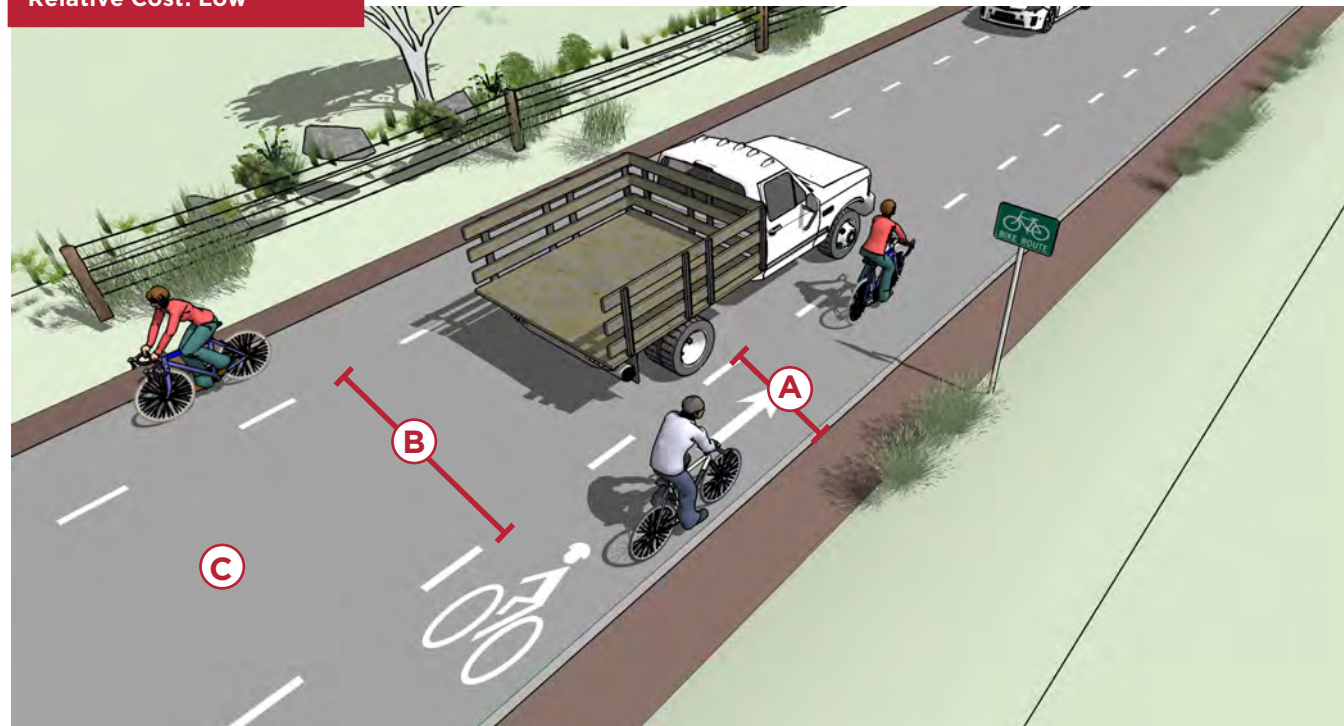
AASHTO. Guide for the Development of Bicycle Facilities. 2012.
FHWA. Manual on Uniform Traffic Control Devices. 2009.

BIKEWAY FACILITIES

ADVISORY BIKE LANES

Advisory bike lanes are bicycle priority areas delineated by broken white lines, separate from a center one-lane two-way travel area. Motorists may only enter the bicycle zone when no bicycles are present. Motorists must overtake bicyclists with caution due to potential oncoming traffic.

Relative Cost: Low



Typical Application

- Most appropriate on urban and rural streets where motor vehicle traffic volumes are low-moderate (1,500-4,500 ADT), and where there is insufficient room for conventional bicycle lanes.
- If on-street parking is present, parking lanes should be highly utilized or occupied with curb extensions to separate the parking lane from the advisory bike lane.
- This treatment may be appropriate on roadways with low volumes if the road is straight with few bends, inclines or sightline obstructions.

Design Features

- (A)** Advisory bike lane width of 6 ft, 5 ft minimum.
- (B)** The automobile zone should be configured narrowly enough so that two cars cannot pass each other in both directions without crossing the advisory lane line. Minimum 2-way motor vehicle travel lane width of 16 ft.
- (C)** No centerline on roadway.

Advisory Bicycle Lane



Advisory bicycle lanes provide dedicated space for bicycles on streets that lack the room for conventional bicycle lanes in both urban contexts with on-street parking and curbs and rural contexts...

Advisory Bicycle Lane



Photo: Danny Kim, thedartmouth.com

...as well as more rural streets without either.

Further Considerations

- This treatment is under experimentation with FHWA, called “dashed bicycle lanes” (FHWA 2016). On federally funded projects, new designs, devices, or applications not covered in or not in compliance with the MUTCD should seek approval for experimentation and study. Section 1A.10 of the MUTCD describes the process of submitting a Request to Experiment. This involves approval by FHWA and followup evaluation and communication as to a treatment’s effectiveness.
- Consider the use of colored pavement within the bicycle priority area to discourage unnecessary encroachment by motorists or parked vehicles.
- It is important to consider the needs of various road users when implementing an advisory bike lane. Required passing widths for truck or emergency vehicles should be considered on routes where such vehicles are anticipated.
- **Because of the experimental nature of advisory bike lanes, any installation should be accompanied by a robust public education campaign and temporary / permanent signage so there is clarity related to expected behavior by motorists and bicyclists.**

Maintenance

Bicycle lanes should be cleared of snow through routine snow removal operations.

References

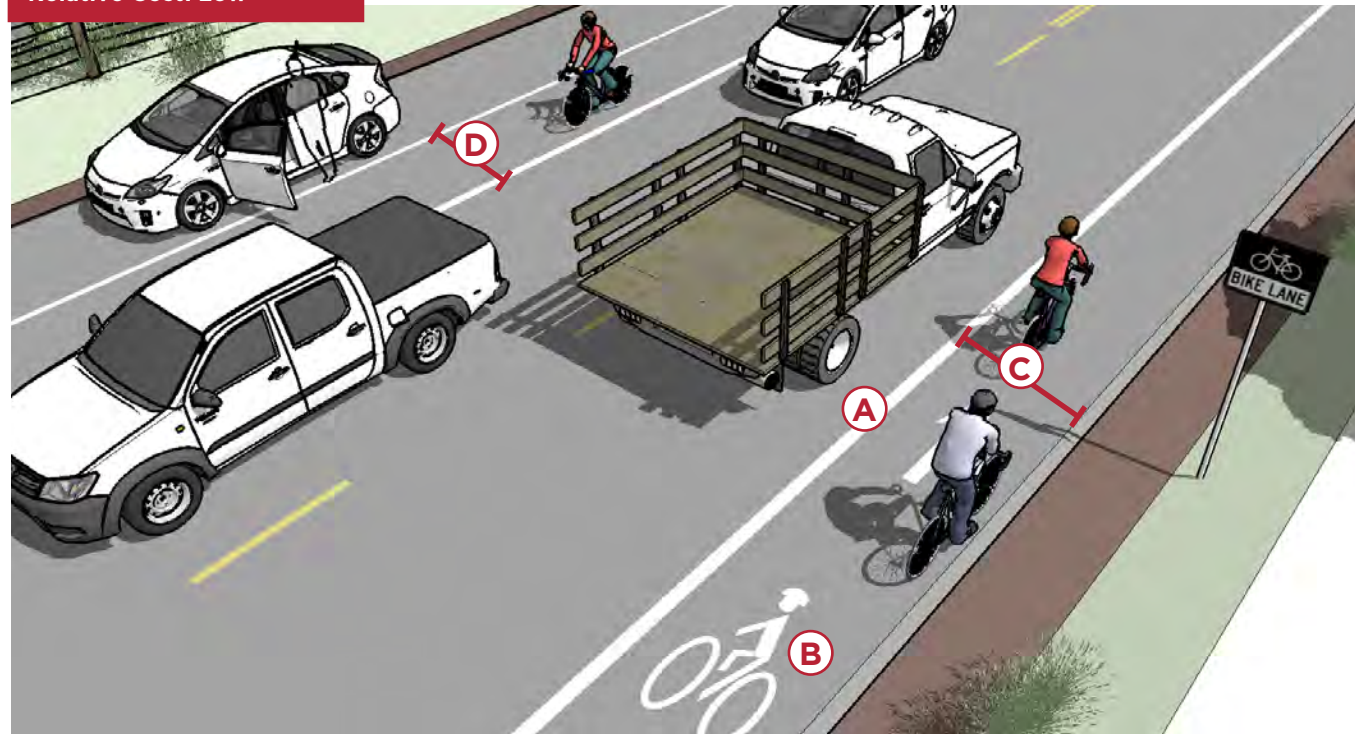
FHWA Bicycle and Pedestrian Program. Dashed Bicycle Lanes. Accessed 2016. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/mutcd/dashed_bike_lanes.cfm

BIKEWAY FACILITIES

ON-STREET BIKE LANES

On-street bike lanes designate an exclusive space for bicyclists through the use of pavement markings and signs. Bike lanes are located directly adjacent to motor vehicle travel lanes and travel in the same direction as motor vehicle traffic.

Relative Cost: Low



Typical Application

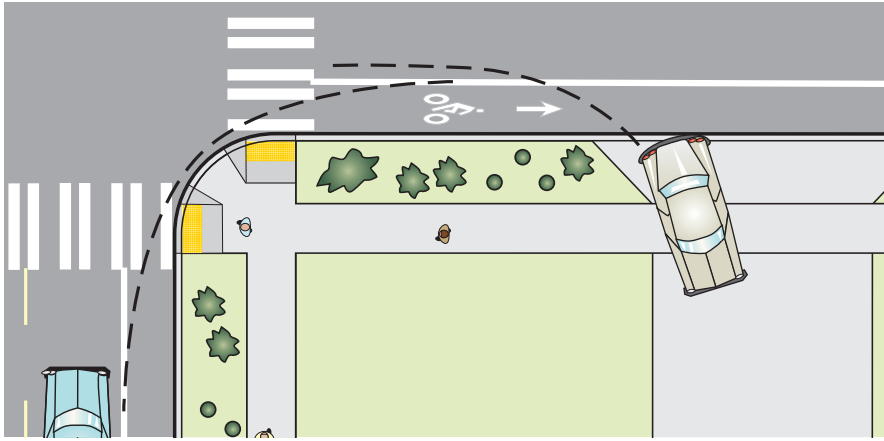
- Bike lanes may be used on any street with adequate space, but are most effective on streets with moderate traffic volumes $\geq 6,000$ ADT ($\geq 3,000$ preferred).
- Bike lanes are most appropriate on streets with moderate speeds of 25 - 35 mph.
- Appropriate for moderately-skilled adult riders on most streets.
- May be appropriate for casual users when configured as 6+ ft wide lanes on lower-speed, lower-volume streets with one travel lane in each direction.

Design Features

- (A) Mark travel side line with 6" stripe. (MUTCD 9C.04) Parking lane lines or the "T's" that demarcate individual parking stalls can be 4" in width.
- (B) Include a bicycle lane marking (MUTCD Figure 9C-3) at the beginning of blocks and at regular intervals along the route. (MUTCD 9C.04)
- (C) 5 foot width adjacent to road edge. (4 foot min. if paved shoulder) (AASHTO 2012)
- (D) 6 foot width adjacent to on-street parking, (5 foot min.) (AASHTO 2012)

* There is no standard for parking Ts, and jurisdictions have much flexibility. MUTCD 3B.19 (p. 386) illustrates various parking space markings, including a type of "T" design.

Place Bike Lane Symbols to Reduce Wear



Bike lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed outside of the motor vehicle tread path in order to minimize wear from the motor vehicle path.

Separated Bike Lanes

As traffic intensity increases in the form of increased speeds, volumes and number of roadway lanes, so does the desire for increased separation between motor vehicles and bicyclists.

Separated bicycle lanes are on-street bikeway facilities that are physically separated from vehicle traffic by a vertical element. This is seen as highly desirable from a safety point of view and to encourage beginner bicyclists and families. Guidance on the development of this facility type can be found in:

MassDOT Separated Bike Lane Planning and Design Guide (2015).

FHWA Separated Bike Lane Planning and Design Guide (2015).

Further Considerations

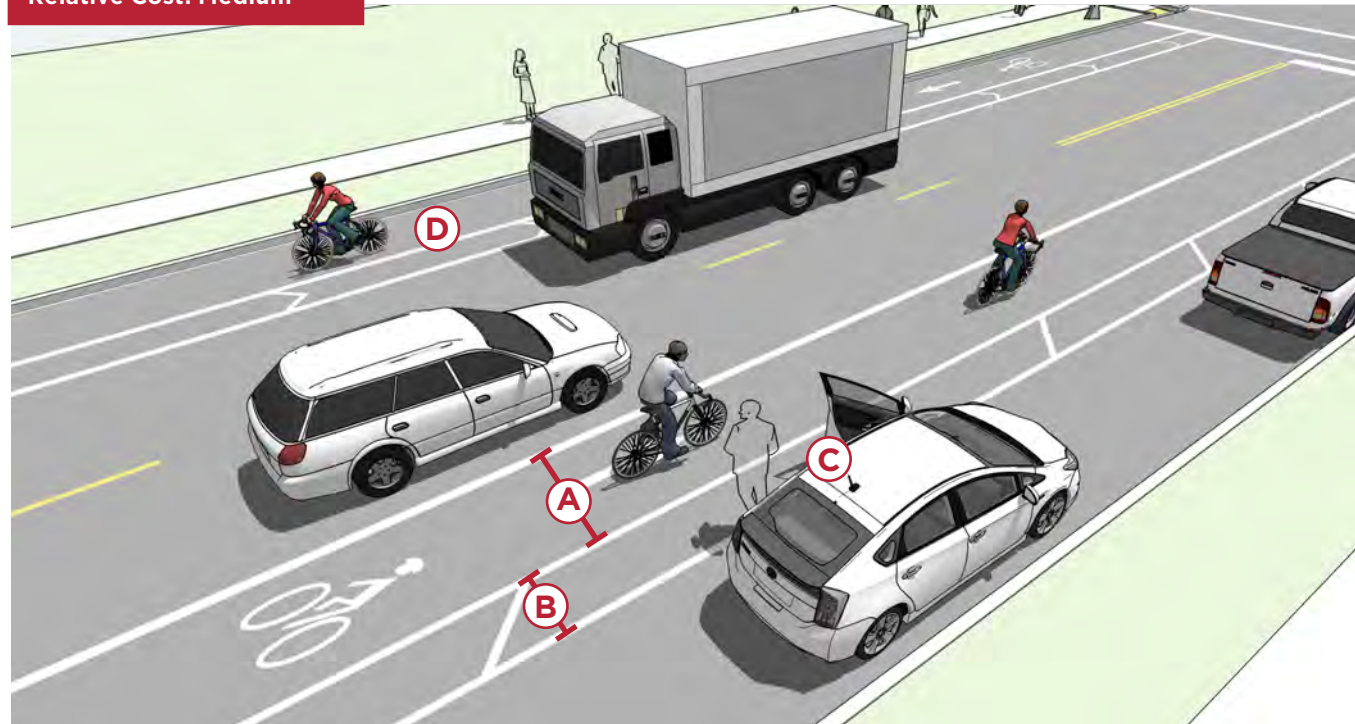
- On streets where bicyclists passing each other is to be expected, where high volumes of bicyclists are present, or where added comfort is desired, consider providing extra wide bike lanes up to 7 feet wide, or configure as a buffered bicycle lane.
- On high speed streets (≥ 40 mph) or multi-lane streets, a physically separated bike lane or sidepath is preferred for user comfort.
- There are many strategies available to implement bicycle lanes into roadway resurfacing projects, including road widening, lane narrowing, travel lane reconfiguration and parking lane reconfiguration (FHWA 2015).
- Narrow parking lane widths as low as 7 ft increase operating space for bicyclists. Reduced width parking lanes should be combined with increased width bicycle lanes. (Furth, 2010).
- For the appropriate interface between the variety of bike lane treatments at bus stops, see the AASHTO Guide to Development of Bicycle Facilities or the NACTO Urban Bikeway Design Guide.

BIKEWAY FACILITIES

BUFFERED BIKE LANES

Buffered bike lanes are conventional bicycle lanes paired with a designated striped buffer space, between the bicycle lane and adjacent motor vehicle travel lane and/or parking lane. For enhanced safety and access for bicyclists, see “Separated Bike Lanes” on previous page.

Relative Cost: Medium



Typical Application

- Anywhere a conventional bike lane is being considered and where additional roadway space exists.
- On streets with high speeds and high volumes or high truck volumes.
- On streets with high rate of parking turnover.
- On streets with extra lanes or lane width.
- Appropriate for skilled adult riders on most streets.

Design Features

- (A)** The minimum bicycle travel area (not including buffer) is 5 feet wide.
- (B)** Buffers should be at least 2 feet wide. If buffer area is 4 feet or wider, white chevron or diagonal markings should be used. (FHWA 2009)
 - Mark the inside buffer line as a dotted line across driveways or minor street crossings for user clarity.
- (C) Parking Side Buffer:** For use adjacent to on-street parking in commercial districts with high parking turnover. (NACTO 2012).
- (D) Travel Side Buffer:** For use adjacent to high-speed, high-volume traffic lanes.

Buffered Bicycle Lane



The use of bold, clear pavement markings delineates space for cyclists to ride in a comfortable facility.

Parking Side Buffer



A 2 foot buffer between the bike lane and the parking lane decreases the likelihood that bicyclists will be impeded by open car doors of parked vehicles.

Further Considerations

- A study of buffered bicycle lanes found that, in order to make the facilities successful, there needs to also be driver education, improved signage and proper pavement markings. (Dill, 2011)
- On multi-lane streets with high vehicles speeds, the most appropriate bicycle facility to provide for user comfort may be physically separated bike lanes.
- NCHRP Report #766 recommends, when space is limited, installing a buffer space between the parking lane and bicycle lane where on-street parking is permitted rather than between the bicycle lane and vehicle travel lane. (NCHRP 2016)

Maintenance

Paint can wear more quickly in high traffic areas or in winter climates. Bicycle lanes should be cleared of snow through routine snow removal operations.

References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- NACTO. Urban Bikeway Design Guide. 2012.
- Dill, J., Monsere, C.; and McNeil, N.; Evaluation of Innovative Bicycle Facilities: SW Broadway Cycle Track and SW Stark/Oak Street Buffered Bike Lanes. 2011.
- National Cooperative Highway Research Program (NCHRP). Report #766: Recommended Bicycle Lane Widths for Various Roadway Characteristics. 2016.

BIKE LANES AT INTERSECTIONS

Design strategies for bicycle lanes at intersections emphasize reducing speeds, minimizing exposure, raising awareness, and communicating right-of-way priority.

Relative Cost: Low to Medium



Typical Application

- A variety of design treatments exist depending on the roadway configuration, available curb-to-curb width, traffic volumes and desire to provide a dedicated turn lane.

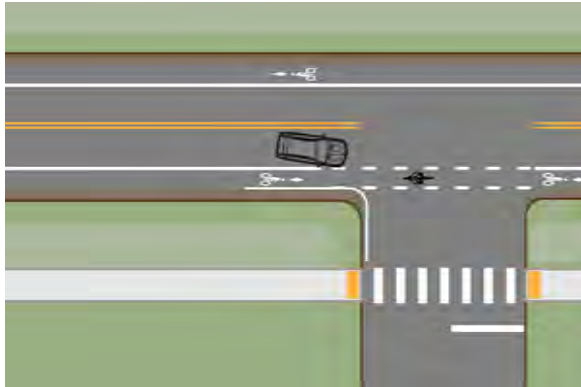


Bike boxes at intersections and green dashed bike lanes through intersections help increase visibility of bicyclists

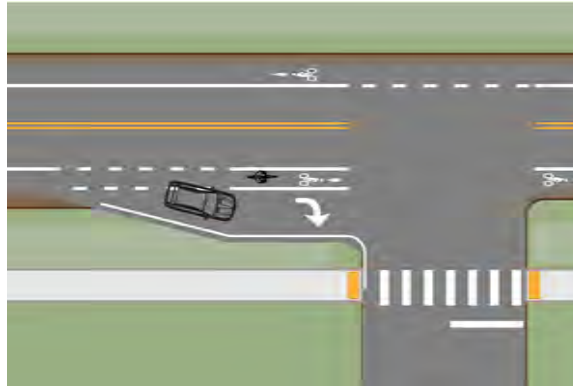
Design Features

Potential bicycle lane intersection treatments include:

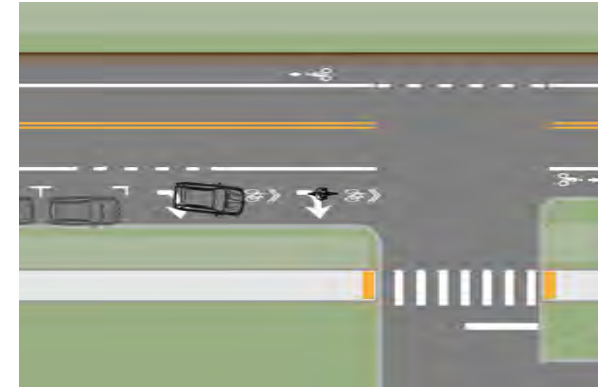
- Intersection crossing markings (see next page)
- Combined bike lane/turn lane (see next page)
- Bike Box (at left)
- Solid or dashed green colored bicycle lanes (at left)
- Exclusive bicycle signal phase

Intersection Crossing Markings

Dotted bike lane line extensions through intersections can guide bicyclists and alert motorists to the bike lane path. (FHWA 2009)

Through Bike Lane

At intersections with increased right turn volume, an added right turn lane to the right of a bike lane allows users to negotiate potential conflicts before the intersection. (FHWA 2009)

Combined Bike Lane/Turn Lane

Where there isn't room to provide both a through bike lane and right turn only lane, A combined bike lane/turn lane creates a shared-lane condition in advance of the intersection. (NACTO 2012)

Further Considerations

- Under most conditions, bicyclist have priority over turning traffic. Traffic control markings and signs should support this priority and remind motorists of the obligation to yield.
- Begin Right Turn Lane Yield to Bikes (R4-4) sign reminds motorists to yield to bicyclists in advance of added right turn lanes.
- Where special emphasis is desired, green pavement color (using either water based roadway paint, epoxy or thermoplastic) may be used within bike lanes and at merging or weaving areas where motor vehicles may cross bike lanes. See FHWA Interim Approval 14 (FHWA 2011) for more information.
- At signalized intersections with very high right turn volumes or multiple right-turn-only lanes, a bicycle signal face and protected bicycle signal phase can remove conflicts entirely. See FHWA Interim Approval 16 (FHWA 2013) for more information.

Maintenance

Paint can wear more quickly in high traffic areas or in winter climates. Bicycle lanes should be cleared of snow through routine snow removal operations.

References

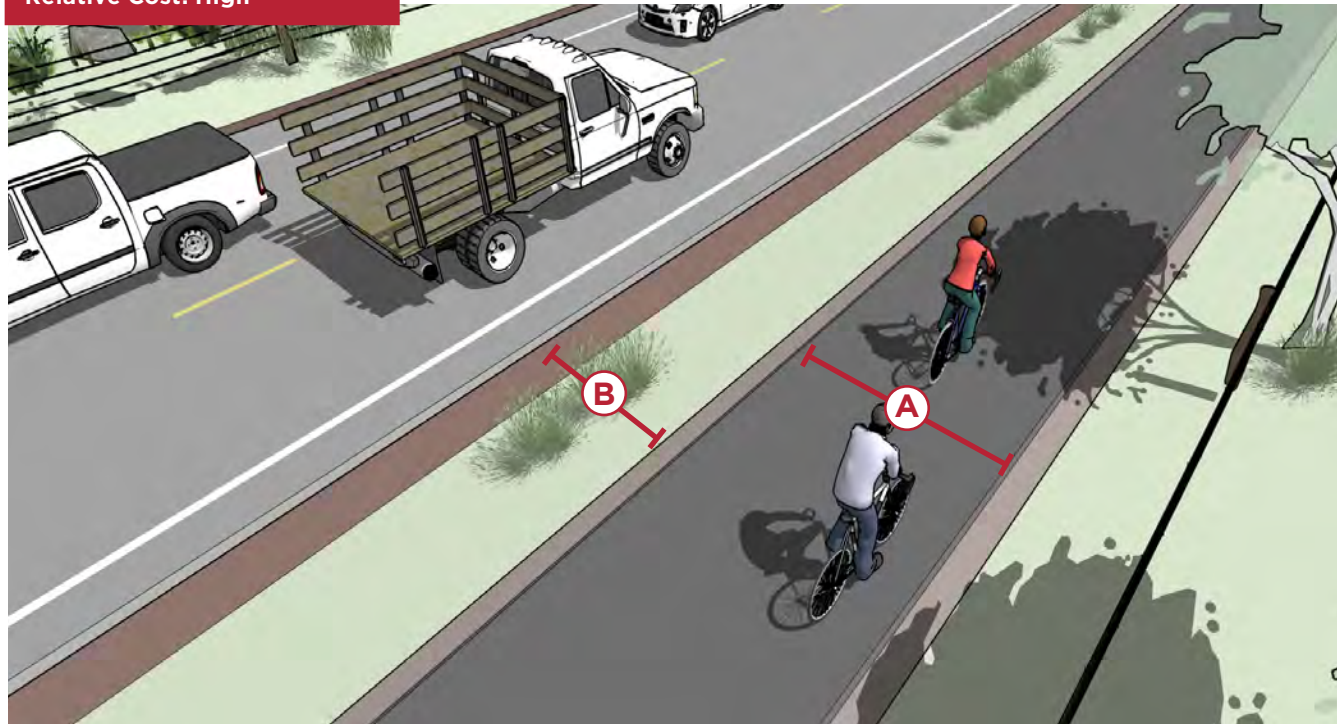
- AASHTO. Guide for the Development of Bicycle Facilities. 2012.
- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- FHWA. Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14). 2011.
- FHWA. Interim Approval for Optional Use of a Bicycle Signal Face (IA-16). 2013.
- NACTO. Urban Bikeway Design Guide. 2012.

BIKEWAY FACILITIES

SIDEPATHS

A sidepath is a bidirectional shared use path located immediately adjacent and parallel to a roadway. Sidepaths can offer a high-quality experience for users of all ages and abilities as compared to on-roadway facilities in heavy traffic environments, allow for reduced roadway crossing distances and maintain community character.

Relative Cost: High



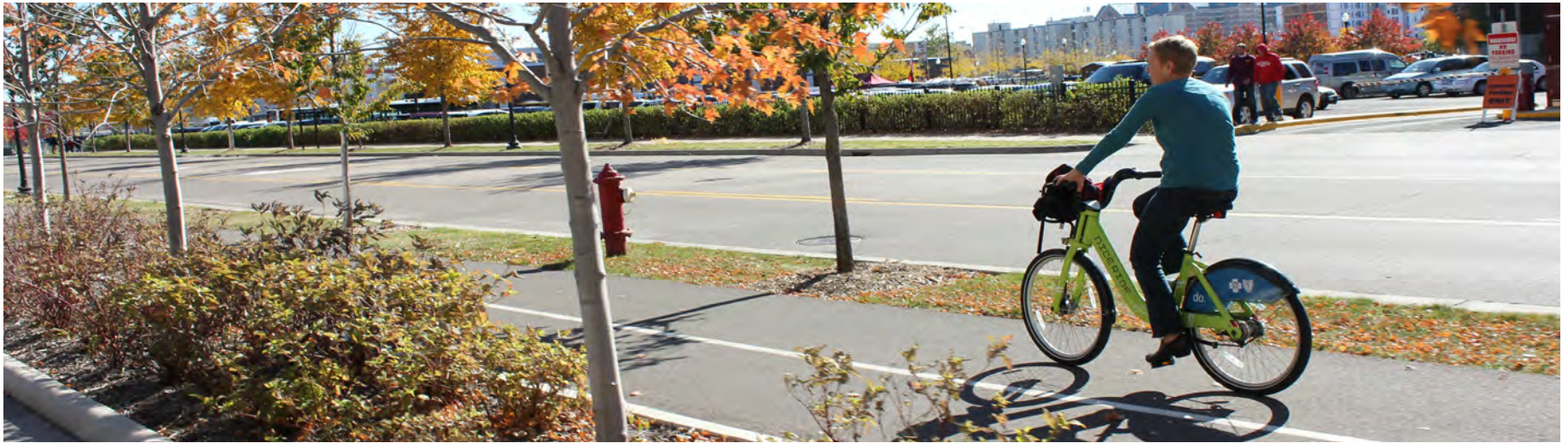
Typical Application

- For completing networks where existing roads provide the only corridors available.
- To connect sections of independent paths or low-stress local routes such as shared use paths and bicycle boulevards.
- Work best on roadways with high operating speeds and high motor vehicle volumes.

Design Features

- (A)** Preferred minimum pathway width is 10 ft. In low volume situations, 8 ft minimum may be adequate.
- (B)** Preferred minimum roadways separation width is 6.5 ft, with an absolute minimum separation width of 5 ft. Minimum dimension separation is only appropriate on low speed roadways. (AASHTO 2012)
 - Separation narrower than 5 feet is not recommended, but may be accommodated with the use of a physical barrier between the sidepath and the roadway. (AASHTO Bike Guide, 2012, pp. 5-11).
 - See MassDOT 2006 Project Development and Design Guide, section 11.4 for additional guidance.

Sidepath



Sidepaths typically provide a more comfortable bicycle facility than on-road bikeways, especially for less experienced riders or children.

Further Considerations

- In extremely constrained conditions, and for short distances, rumble strips and painted buffer striping may be used to separate the pathway from the roadway.
- Depending on community character and surrounding environmental context, use of stonedust (sometimes called crushed limestone) for the sidepath may be preferred.
- Sidepath design needs to carefully consider roadway and driveway crossing to ensure safety through high visibility, warning signage and appropriate offset of the sidepath from the adjacent roadway.

Maintenance

Asphalt is the most common surface for bicycle paths. The use of concrete for paths has proven to be more durable over the long term. Saw cut concrete joints, rather than troweled, improve the experience of path users.

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.
- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- FHWA. Separated Bike Lane Planning and Design Guide. 2012.
- MassDOT. Project Development and Design Guide, Ch 11. 2006.
- NACTO. Urban Bikeway Design Guide. 2012.

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SHARED USE PATH CROSSINGS



BASIC PATH CROSSINGS

At non intersection areas, markings must be used to establish a legal crosswalk. Well-designed midblock crossings can provide many safety benefits to path user safety and comfort.

Relative Cost: Low



Typical Application

- Where shared use paths intersect with collector or minor arterial streets.
- Path crossings should not be provided within approximately 400 feet of an existing signalized intersection. If possible, route path directly to the signal.

Design Features

- A** Crosswalk markings legally establish midblock shared use path crossing. (FHWA 2009)
- B** Crossing assemblies draw attention to the crossing
 - Where feasible, traffic calming features such as speed humps in advance of the crossing, or a raised crossing, or median islands may be integrated into the crossing to improve yielding by motorists.

Basic Path Crossing

This path crossing includes many enhancements to slow traffic and promote yielding.

Basic Path Crossing

Along pathways with high volumes of users, and at path crossings in built up areas with crosswalks, path crossings should provide adequate room for path users to wait outside of the path of crossing sidewalks.

Further Considerations

- High-visibility crosswalk markings are the preferred marking type at uncontrolled marked crossings. (FHWA 2013)
- On roadways with high speed and high volumes of motor vehicles, crosswalk markings alone are often not a viable safety measure. This should not discourage the implementation of crosswalks, but should rather support the creation of more robust crossing solutions. (Zeeger 2005)
- Rectangular Rapid Flash Beacons (RRFB's) can "enhance safety by reducing crashes between vehicles and pedestrians at unsignalized intersections and mid-block pedestrian crossings by increasing driver awareness of potential pedestrian conflicts."

Maintenance

Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority. Thermoplastic markings offer increased durability over conventional paint.

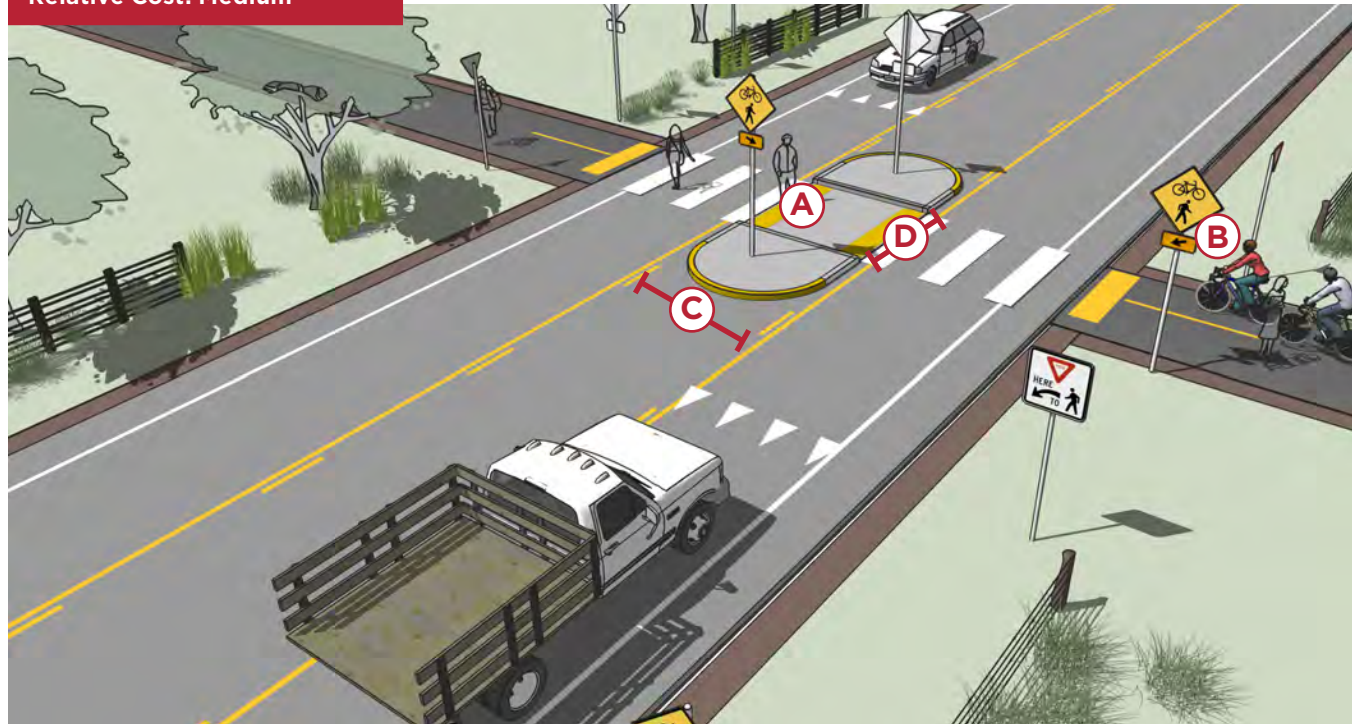
References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- FHWA. An Overview and Recommendations of High-Visibility Crosswalk Markings Styles. 2013.
- MassDOT. Project Development and Design Guide. Ch 11. 2006.
- Zeeger, C., J. Stewart, and H. Huang. Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations. 2005.

MEDIAN CROSSINGS

Median safety islands are located at the mid-point of a marked crossing and help improve path user safety by allowing pedestrians to cross one direction of traffic at a time. Safety islands minimize pedestrian exposure by shortening crossing distance and increasing the number of available gaps for crossing.

Relative Cost: Medium



Typical Application

- Can be applied on any roadway with a left turn center lane or median that is at least 8' wide, or where wide traffic lanes and/or shoulders can be narrowed enough to provide at least 8' of space for the crossing island.
- May be appropriate on multi-lane roadways depending on speeds and volumes. Consider configuration with active warning beacons for improved yielding compliance.
- Appropriate at signalized or unsignalized crosswalks. Where unsignalized, refuge areas are recommended when pedestrians cross two or more through traffic lanes in one direction.

Design Features

- (A)** The island must be accessible, preferably with at-grade passage through the island rather than ramps and landings. Detectable warning surfaces must be full-width and 2 ft deep to warn blind pedestrians.
- (B)** Pair MUTCD W11-15 and W16-7P crossing sign assembly.
- (C)** Requires 8' width between travel lanes and 20 ft length (40' preferred). (AASHTO 2012)
- (D)** The path through the median should be the same width of the crosswalk. Minimum clear width of 4 ft required.

Path Crossing with Safety Island



This trail crossing combines a median safety island with raised crosswalk.



Side mounted rectangular rapid flashing beacon installation with median safety island.

Further Considerations

- Unsignalized crossings of multi-lane arterials over 15,000 ADT may be possible with features such as sufficient crossing gaps (more than 60 per hour), median refuges, and/or active warning devices like rectangular rapid flash beacons or in-pavement flashers, and excellent sight distance. (FHWA 2009)
- If a refuge island is landscaped, the landscaping should not compromise the visibility of pedestrians crossing in the crosswalk. Shrubs and ground plantings should be no higher than 1 ft 6 in.
- On multi-lane roadways, consider configuration with active warning beacons for improved yielding compliance.

Maintenance

Refuge islands may collect road debris and may require somewhat frequent maintenance. Trees and plantings must be maintained so as not to impair visibility. Refuge islands should be visible to snow plow crews and should be kept free of snow berms that block access.

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.
- FHWA. Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11). 2008.
- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- MassDOT. Project Development and Design Guide. Ch 11. 2006.

ACTIVE ENHANCED CROSSINGS

Active enhanced crossings feature user-actuated warning beacons to increase motor vehicle yielding compliance at crossings of multi lane or high volume roadways. Types of active warning beacons include conventional circular yellow flashing beacons, in-roadway warning lights, or Rectangular Rapid Flash Beacons (RRFB) or pedestrian hybrid beacons.

Relative Cost: High



Typical Application

- Located at high-volume pedestrian crossings, or at priority bicycle route crossings, including shared-use paths.
- Implemented at mid-block locations or at intersections where signals are not warranted or desired.
- Where driver yield compliance at shared use path crossings is low.

Design Features

- (A)** Includes MUTCD W11-15 and W16-7P signage.
- (B)** Providing multi-beacon installations on mast arms or center islands improves driver yielding behavior
- (C)** Painted yield line markings with MUTCD R1-5 signage at yield location.
- (D)** Pushbuttons should be easy to identify and access and be user-responsive.



On multilane streets, overhead and multiple beacon installations are critical for awareness by motorists in all approach lanes.



A Pedestrian Hybrid Beacon (PHB) (approved for installation by MassDOT) can provide a more effective means to stop vehicles on multi-lane streets than RRFB. This is also known as a Pedestrian HAWK signal.

Further Considerations

- Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity and safety.
- A pedestrian hybrid beacon is an actuated warning device which uses red signal indications and a noticable wig-wag pattern to achieve high yielding rates at crosswalk.
- A study of the effectiveness of going from a no-beacon arrangement to a two-beacon RRFB installation increased yielding from 18 percent to 81 percent. A four-beacon arrangement raised compliance to 88 percent. Additional studies over long term installations show little to no decrease in yielding behavior over time.

Maintenance

Depending on power supply, maintenance can be minimal. If solar power is used, active warning beacons can run for years without issue.

RRFBs should be regularly maintained to ensure that all lights and detection hardware are functional.

References

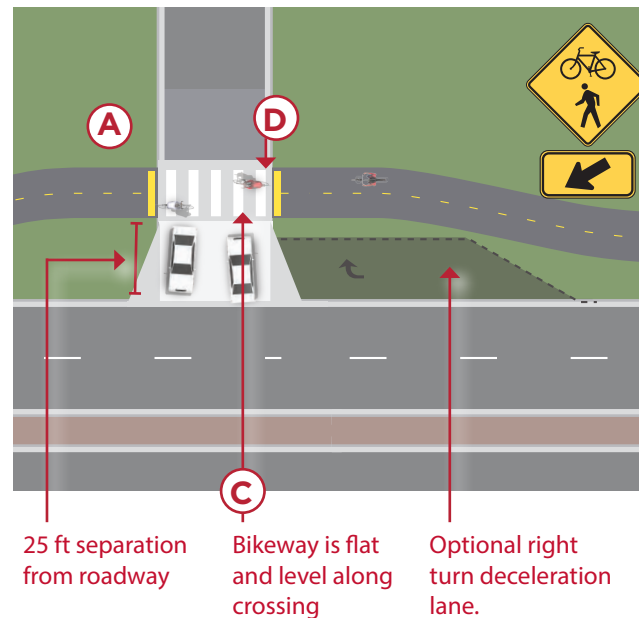
- NACTO. Urban Bikeway Design Guide. 2012.
- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- FHWA. MUTCD - Interim Approval for Optional Use of Rectangular Rapid Flashing Beacons (IA-11). 2008.
- MassDOT. Project Development and Design Guide. Ch 11. 2006.

SIDEPATH CROSSINGS

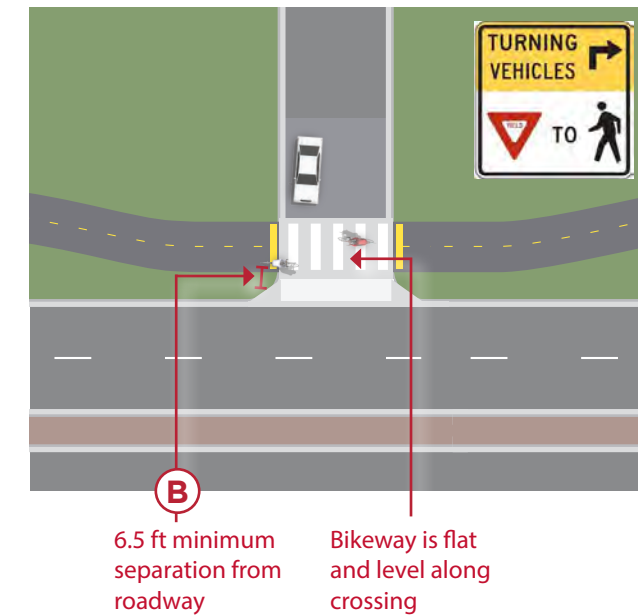
Sidepaths provide a high degree of comfort on long uninterrupted roadway segments, but have operational and safety concerns at driveways and intersections with secondary streets. Crossings should be designed to promote awareness, and facilitate proper yielding of motorists to bicyclists and pedestrians.

Relative Cost: Medium

High Speed Conditions



Low/Intermediate Speed Conditions



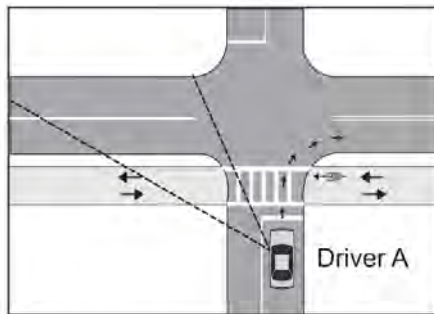
Typical Application

- At controlled and uncontrolled sidepath crossings of driveways or minor streets.
- Used to provide for visibility and awareness of the crossing by motorist in advance of the crossing.
- Increases the predictability of sidepath and road user behavior through clear, unambiguous right of way priority.

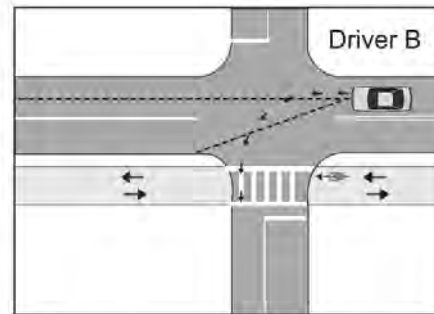
Design Features

- (A)** The sidepath should be given the same priority as the parallel roadway at all crossings.
- (A)** Provide clear sight triangles for all approaches of the crossing.
- (B)** Maintain physical separation to the crossing of 6.5 to 25 ft. (Scheppers 2011). As speeds on the parallel roadway increase, so does the preference for wider separation distance. (FDOT 2005).
- (C)** Configure crossings with raised speed table and median safety island
- (D)** Use high visibility crosswalk markings to indicate the through area of the crosswalk.

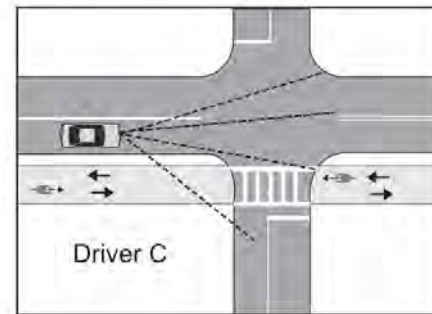
Potential conflicts along sidepath crossings of side streets or driveways include the following (AASHTO 2012):



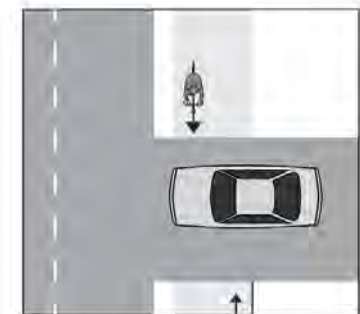
Right turning Driver A is looking for traffic on the left. A contraflow bicyclist is not in the driver's main field of vision.



Left turning Driver B is looking for traffic ahead. A contraflow bicyclist is not in the driver's main field of vision.



Right turning Driver C is looking for left turning traffic on the main road and traffic on the minor road. A bicyclist riding with traffic is not in the driver's main field of vision.



Stopped motor vehicles on side streets or driveways may block the path.

Further Considerations

- Sidepaths running for long distances in suburban areas with many driveways or street crossings can create operational concerns. See the figure above for potential conflicts associated with sidepath crossings. (AASHTO 2012)
- Along roadways, these facilities create a situation where a portion of the bicycle traffic rides against the normal flow of motor vehicle traffic and can result in wrong-way riding where bicyclists enter or leave the path.
- The provision of a shared use path adjacent to a road is not a substitute for the provision of on-road accommodation such as paved shoulders or bike lanes, but may be considered in some locations in addition to on-road bicycle facilities.
- To reduce potential conflicts in some situations, it may be better to place one-way sidepaths on both sides of the street. (AASHTO 2012)

Maintenance

Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority. Thermoplastic or epoxy markings offer increased durability over conventional paint.

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.
- Schepers et al. Road factors and bicycle—motor vehicle crashes at unsignalized priority intersections. *Accident Analysis & Prevention*. Volume 43, Issue 2, 2011.
- Florida Department of Transportation (FDOT). Sidepath Facility Selection and Design. 2005.



ROUTE 202 CORRIDOR COMPLETE STREETS RECOMMENDATIONS

JANUARY 2017



PREPARED FOR THE TOWN OF BELCHERTOWN BY
ALTA PLANNING + DESIGN





ACKNOWLEDGEMENTS

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This project was made possible by a 1422 grant from the Massachusetts Department of Public Health, using federal Center for Disease Control funding. Additional funding for graphics came from Cooley Dickinson Hospital. In-kind support from the City of Northampton and Healthy Hampshire/Mass in Motion was critical to the project.

INTRODUCTION

Belchertown is one of a handful of communities in the Pioneer Valley to have expressed interest in becoming more walkable and bikable. This is consistent with cities and towns throughout the Commonwealth as MassDOT has emphasized the need for improved traffic safety for all roadway users. The overarching theme is called “complete streets”, the aspiration that streets provide an appropriate level of access and safety for pedestrian, bicyclists, motorists and, where applicable, transit users. The Town of Belchertown, Mass in Motion and Healthy Hampshire all recognize the need to improve safety and accessibility along Route 202 and brought in Alta Planning + Design to develop a series of complete streets recommendations.

The Route 202 corridor that provides the focus of this study provides access to many of the key destinations in town, including the Town Common, Town Hall, Clapp Memorial Library, the Senior Center, the Police Station, the County Courthouse, two elementary schools and the high school. Numerous businesses lie along the corridor as well. The intent of the recommendations is to improve pedestrian and bicycle safety along State Street, Maple Street and Main Street and improve connections to the adjacent neighborhoods and destinations along the corridor.

In summary, the key recommendations in this study include:

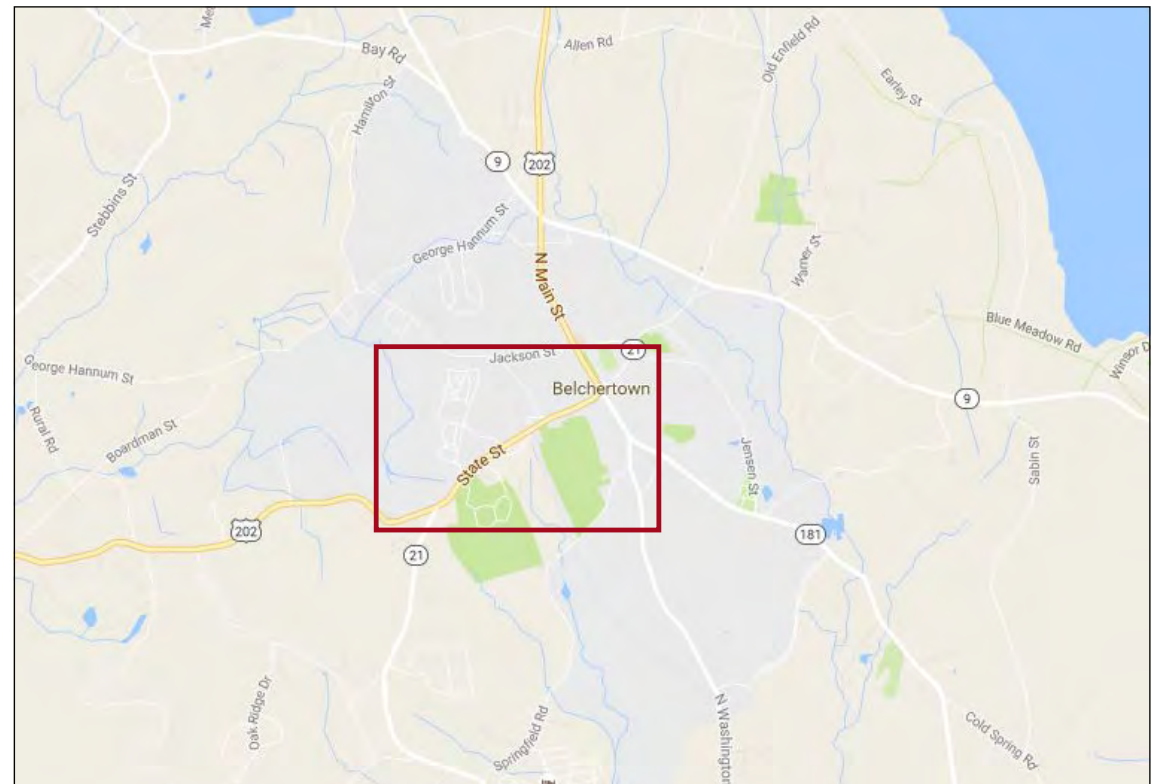
- New sidewalks and shared use paths along State Street and the roadways that lead to the Chestnut Hill Community School and the Swift River Elementary School
- Pedestrian-oriented intersection enhancements on State Street at Whitlock Way and Front Street
- Wider shoulders or bike lanes along State and Maple (in conjunction with the roadway reconstruction in the

near future), and along Main Street adjacent to the Town Common

- Pedestrian safety enhancements at the Main / E. Walnut / Jackson intersection, to improve access to the Town Common and McCarthy’s Pub

These recommendations were informed by input from Town of Belchertown staff and Healthy Hampshire, previous analysis and studies along the corridor, and community comments received at the August 2nd Public Forum. Held at the Senior Center, the forum drew 20-25 residents who expressed varying levels of support for future infrastructure that will improve safety for pedestrian, bicyclists and motorists, and enhanced PVTa transit service along the corridor.

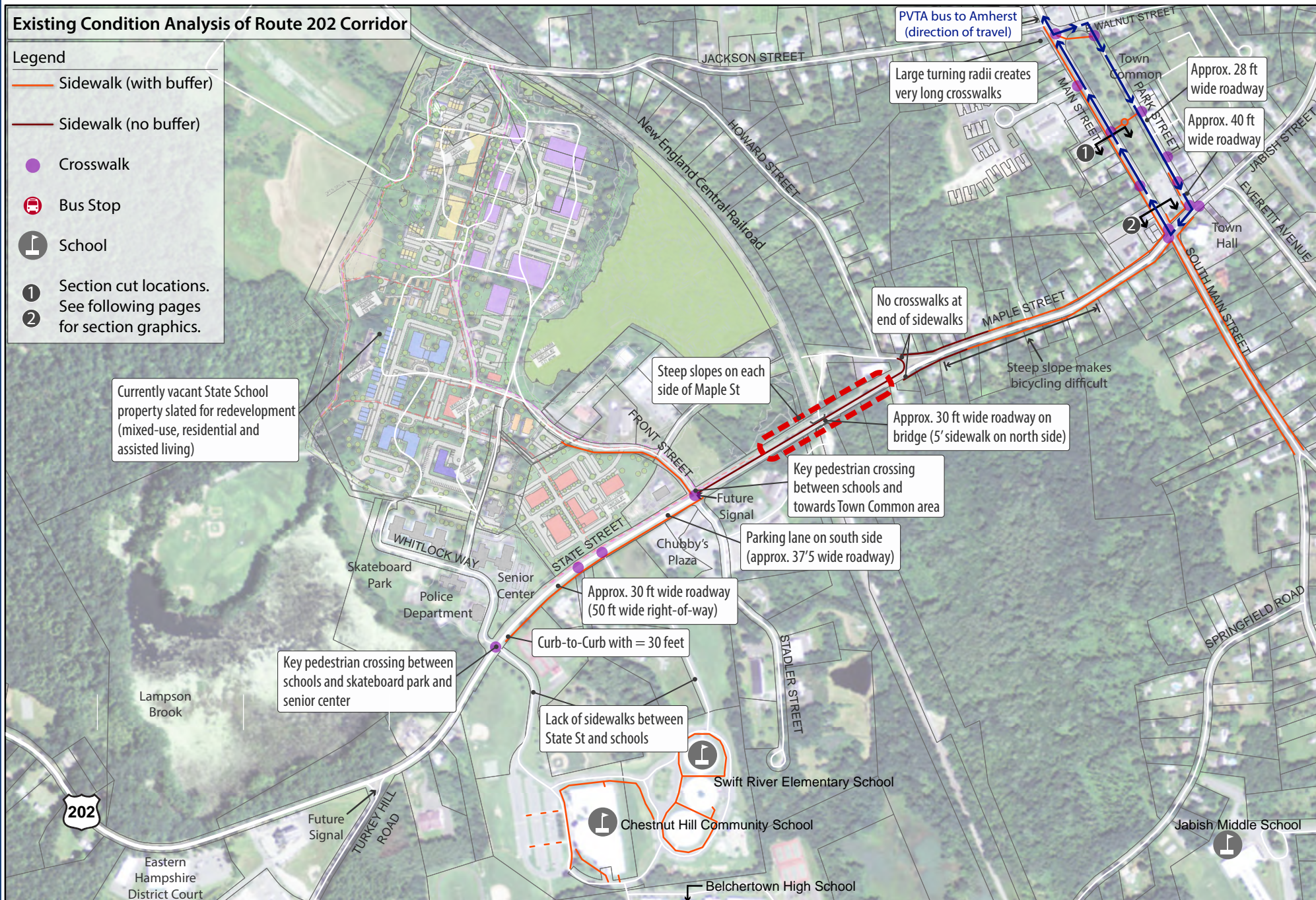
TOWNWIDE CONTEXT MAP



Existing Condition Analysis of Route 202 Corridor

Legend

- Sidewalk (with buffer)
- Sidewalk (no buffer)
- Crosswalk
- Bus Stop
- School
- 1 Section cut locations. See following pages for section graphics.
- 2



EXISTING CONDITIONS

The Massachusetts Route 202 study area is a roughly one-mile long corridor that extends from the Eastern Hampshire District Court to the north end of the Town Common. Locally, this stretch of Route 202 is designated as State Street, Maple Street and Main Street. The right-of-way width varies from 50 to 60 feet and the roadway features one traffic lane in each direction with designated turn lanes on the approaches to the signal at Main Street and Maple Street. Posted as a 35 mph roadway, average daily traffic volume on Route 202 along State/Maple is in the 13,000-14,000 range, according to PVPC's Route 202 study. Dozens of crashes have occurred since 2008 along State and Maple with 1/3 resulting in injuries, though no fatalities were recorded in that time period. The three relatively distinct portions of the corridor include 1) the stretch from the District Courthouse to the bridge over the New England Central Railroad line, 2) from the bridge to the Maple/Main intersection, and 3) the portion of Main Street adjacent to the Town Common.

District Courthouse to the Bridge over the Rail Line:

Beginning at the Courthouse, this section of the corridor lacks sidewalks on either side of the street, and features a very wide crossing of Turkey Hill Road, which creates uncomfortable conditions for pedestrians and bicyclists on the approach to Eastern Hampshire District Court. The intersection of Route 202 and Turkey Hill Road is slated to receive a traffic signal in the near future. A sidewalk begins on the south side of the street at Whitlock Way. There are important pedestrian crossings at the Police Department and school driveway at Whitlock way and at Chubby's Plaza at Front Street and Stadler Street. This stretch of road includes the addition of on-street parking on the approach to Chubby's Plaza. The sidewalk transitions from the south side of

the street to the north side at the intersection at Chubby's Plaza. The road width along this stretch varies from 30 feet to 37.5 feet.

Bridge over the Rail Line to the Maple / Main Intersection:

The sidewalk on the north side of the road at the bridge over the rail tracks continues along this stretch of roadway all the way to the light at Main Street. Additionally, a sidewalk begins on the south side of the roadway at Oak Specialists furniture company. However, there is no crosswalk for pedestrians using the south sidewalk from Main Street towards the schools to transition to the sidewalk on the north side.

Maple/Main Intersection to the E. Walnut/Main/Jackson Intersection:

This stretch of the corridor includes Belchertowns Town Common, Town Offices, bus transit service to Amherst, and a varying roadway width. The destination of the town Common, McCarthy's Pub, and other places make this a desirable walking and bicycling destination.



The large turning radii at the Main / E. Walnut intersection creates very long crosswalks at a key corner of the Town Common



Wide travel lanes on Main Street adjacent to the Town Common can be narrowed to provide space for designated bike lanes



The Whitlock Way / State Street intersection offers a key opportunity for pedestrian safety improvements between the Senior Center and the Chestnut Hill Community School

“Belchertown could benefit from celebrating the trails that currently exist in its immediate proximity and creating connections with other trails in the vicinity of the town.”

- Page 16, DART Belchertown Report

PAST PLANNING EFFORTS

Design and Resiliency Team (DART) Study

Funding: Urban Sustainability Directors Network and American Institute of Architects

Summary: Avoid “piecemeal planning” by designing to avoid predicted future problems in planned developments along the Route 202 corridor. “The way in which the State School Masterplan has changed throughout the design process exemplifies this vision.” The team identified four nodes that make up Belchertown’s identity and recommended improved connections between them: Town Center, former Belchertown State School, the Lampson Brook Farm, and the Four Corners shopping area. By identifying four nodes, the team was able develop a comprehensive planning vision, considering three strategic opportunities to strengthen Belchertown’s connections: cultural strengths, physical attributes, and economic opportunities, as each one relates to the four nodes.

Key Findings / Recommendations:

- Filling in the gaps in the building edge around the Town Common
- Creating a sense of place and accommodating the needs of bicyclists and pedestrians by encouraging Complete Streets Principles along the Route 202 corridor and environs
- Introducing bicycle lanes and parallel parking along Main Street
- Utilizing State Street’s character as a local road (versus Route 9’s character as a commuter road) by fronting the redeveloped State School’s buildings along the roads edge
- Repairing broken sidewalks
- Changing the towns Subdivision Regulations on sidewalks from requiring bituminous asphalt to requiring

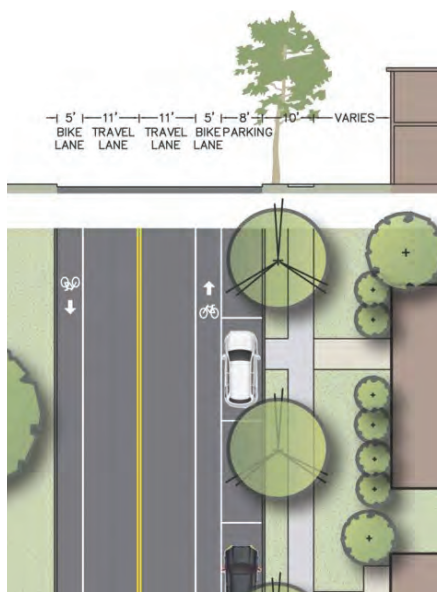
cement sidewalks in addition to increasing the minimum width from 4’ to 5’

PVPC Route 202 Study

Funding: Pioneer Valley MPO

Summary: This study analyzed the Route 202 corridor from Route 21 (Turkey Hill Road) to Stadler Street. Detailed descriptions of roadway character were included, including the presence of stop signs at the Chestnut Hill Middle School and Belchertown Police Station approaches to Route 202, a flashing red “stop” beacon at the Stadler and Front Street approaches, a flashing yellow “caution” beacon along Route 202 at the Stadler Street and Front street intersection. The analysis includes daily vehicle volume, hourly vehicle volume, in addition to turning movement counts. Crash data analysis found that the highest crash location is at the intersection of route 202 and Route 21 (Turkey Hill Road). the crash rate at this location exceeds both the statewide average and the MassDOT District 2 average.

Key Findings / Recommendation: At the minor street approach to the intersection of State Street with Front Street, traffic Level of Service can approach a failure, or level “F”. During afternoon dismissal times, the Chestnut Hill Middle School driveway was calculated to operate at Level of Service “D”. The report recommends that this section of Route 202 would benefit from exclusive left turn lanes, requiring roadway widening, utility relocation, and possibly the acquisition of private property. Finally, the report states that “it is important to restrict the number and location of curb cuts onto State Street...Access management techniques such as the location, spacing, design, and operation of curb cuts as well as appropriately addressing pedestrian usage and needs will greatly assist in reducing traffic congestion and increasing safety along the State Street corridor.”



Proposed section and aerial drawing of Main Street includes bike lanes and parking in existing roadway alignment, Page 30, DART Belchertown Report

Route 202 Walk Audit

Funding: Massachusetts Association of Councils on Aging, Massachusetts Department of Public Health. Report prepared by Healthy Hampshire/Mass in Motion and walkBoston.

Summary: Goals of this report were to foster an awareness of the infrastructure elements that contribute to the walking environment, evaluate the safety and quality of the walking environment along the route, and recommend infrastructure improvements. The corridor extents are from Belchertown Town Common to the Eastern Hampshire District Court.

Key Findings/Recommendations:

- Implement traffic calming techniques
- Increase safety and visibility of crosswalks, long term redesign could include raised crosswalks, blinking lights, curb ramps, detectable warning strips
- Install push-button pedestrian actuated signals, and include as a provision in development agreements with developers building on the State School campus
- Tighten the turning radius at each intersection and driveway
- Make sidewalks clearly continuous across curb cuts and driveways
- Add benches, spruce up green spaces, and plant shade trees
- Consolidate and narrow driveways
- Add sidewalks in areas of new construction
- Connect sidewalks to walking and recreational trails
- Plan for bicyclist and pedestrians first when renovating streets
- Establish a dedicated sidewalk maintenance budget to repair/replace sidewalks in corridor

Route 202 Bike Assessment

Funding: Report assembled by Healthy Hampshire / Mass in Motion. Report prepared for the Town of Belchertown by the Massachusetts Bicycle Coalition in partnership with the Department of Public Health.

Summary: Study area from Town Common to the courthouse chosen based on “the high rates of bicyclists using the segment and as a catalyst to create a bikeable network for connectivity within Belchertown.”

Key Findings / Recommendations:

- Narrow travel lanes along the length of Route 202 to calm automobile traffic and implement 5’ bike lanes where feasible
- Assess the feasibility of connecting the separated trail network more officially between Piper Farm Recreational Area and Checkers
- Work with developers of the Belchertown State School property to improve the biking and walking environment
- Consider implementing wayfinding signage to connect people with destinations and key points of interest in time and distance
- Consider working with MassDOT to reduce the speed limit from 35 MPH to 30 or 25 MPH
- Consider working with local businesses to hold a bike/ walk street festival to highlight the benefits of biking and walking on the local economy
- Assess feasibility of creating a multi-use trail that could run parallel to State Street in the vicinity of the Belchertown state school property, that would accommodate both pedestrians and cyclists

“The crosswalks located at the Front Street / Stadler street intersection and at the Senior Center are very long and would benefit from curb extensions to shorten the distance.”

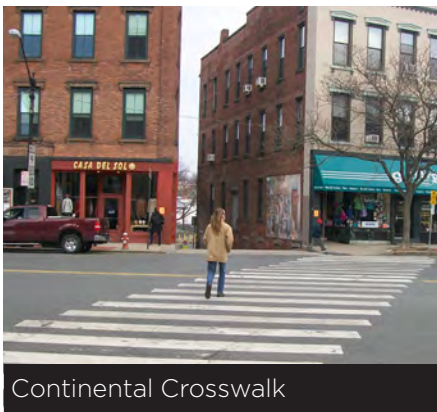
- Page 6, Route 202 Walk Audit Report



Planning Director Doug Albertson, Conservation Commissioner LeeAnne Connelly, and volunteers assembled by the Senior Center and Healthy Hampshire staff participated in the walk audit

Toolbox of Improvements

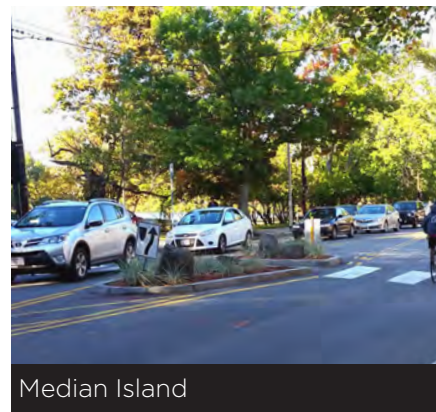
Pedestrian Amenities



Continental style crosswalks are highly visible to motorists. They are cost-effective by placing gaps in established tire tracks, reducing the level of wear over time. Continental crosswalks are the preferred crosswalk design standard.



6' sidewalks allow for pedestrians walking and individuals in wheelchairs to travel comfortably and have enough space to pass someone traveling the opposite direction. The buffer provides a shy distance from the opposite motor vehicle traffic, adding to the level of comfort and perceived safety of the sidewalk.

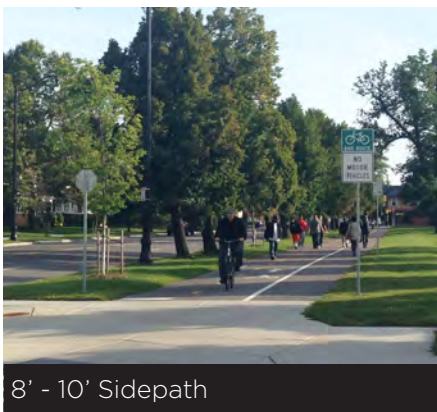


Pedestrian refuge islands limit pedestrian exposure in the intersection. They are recommended where a pedestrian must cross more than two lanes of traffic in one direction or locations with high pedestrian-collision rates. Medians or safety islands create a 2-stage crossing for pedestrians, which is safer for mobility impaired individuals.

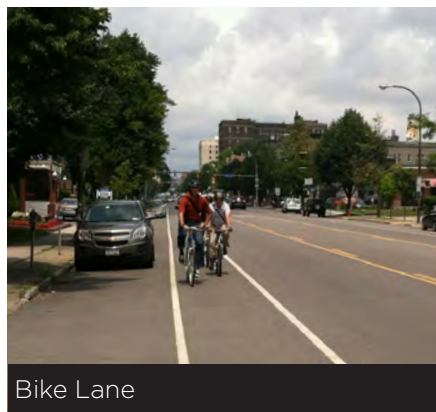


Rectangular Rapid Flash Beacons (RRFB's) can enhance safety by reducing crashes between vehicles and pedestrians at unsignalized intersections and mid-block pedestrian crossings by increasing driver awareness of potential pedestrian conflicts.

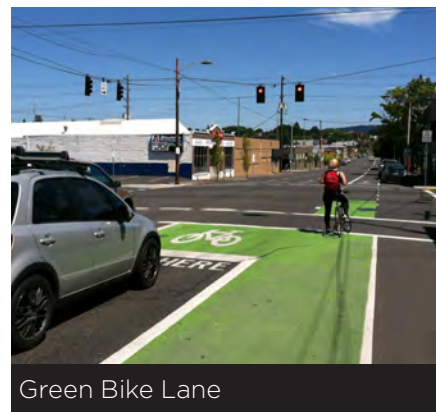
Bicycle Amenities



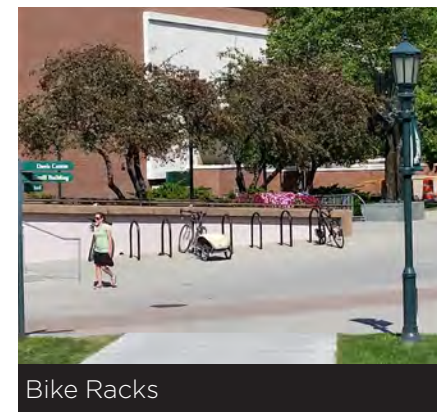
Separating bicycle facilities from the street raises the comfort level for bicyclists and reduces potential crashes between motor vehicles and bicyclists by vertical separation. Sidepaths allow for more and varied ages of bicyclists, 8 - 80, to try cycling in an environment otherwise perceived as being too risky.



Bike lanes are located along the shoulder of a roadway and delineate a space where bicycles may travel safely. A 5' bike lane is the preferred standard (4' minimum.) Bike lane stencils reinforce the separation to both bicyclists and motor vehicles.



Green bike lanes alert the motorist and bicyclist to the presence of a high crash or conflict area. The green paint is a visual cue to check for vehicles and bicycles as drivers make a right turn.



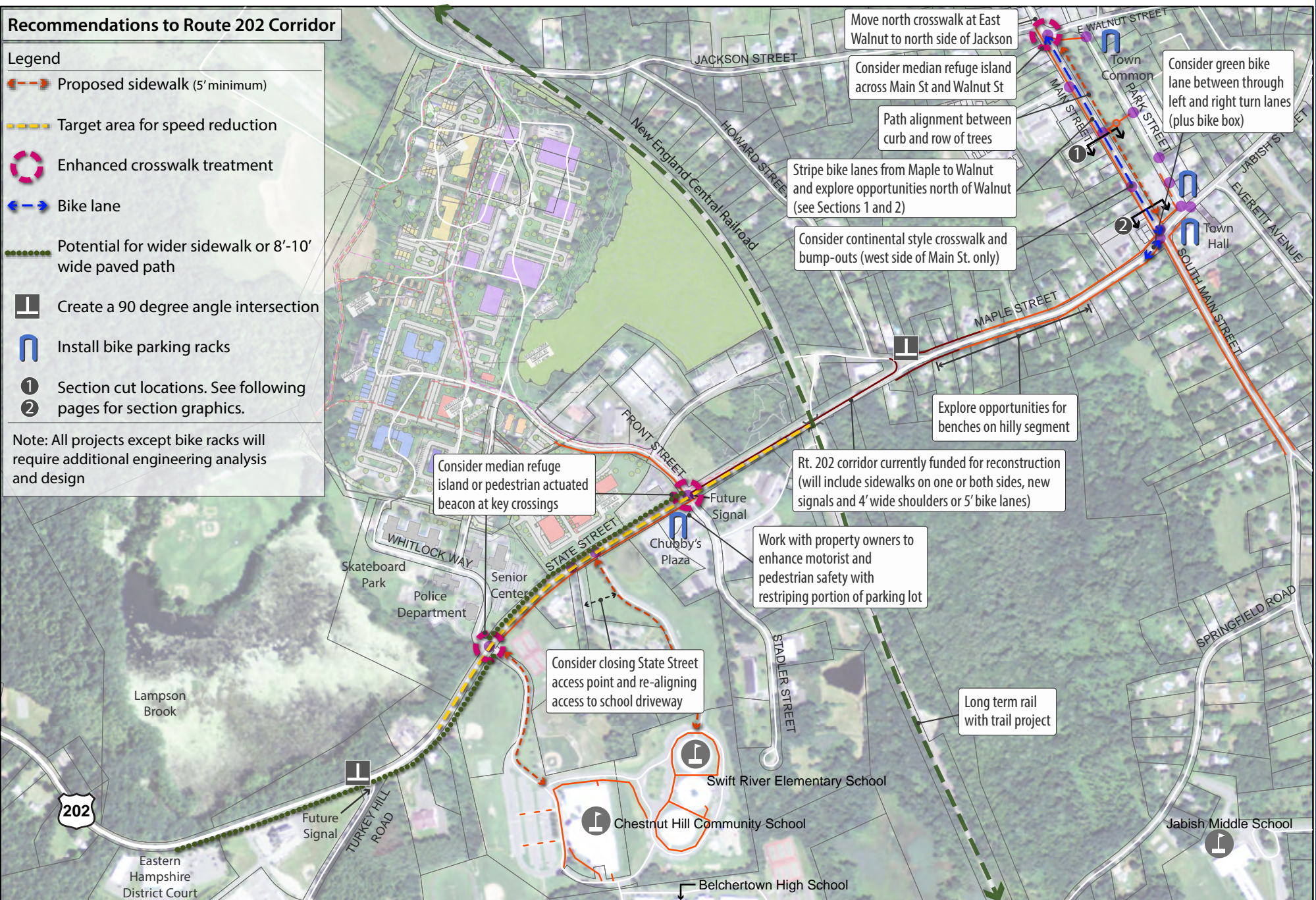
Inverted-U style bike racks are the preferred standard for bike racks. These racks reduce theft and keep bicycles organized and upright.

Recommendations to Route 202 Corridor

Legend

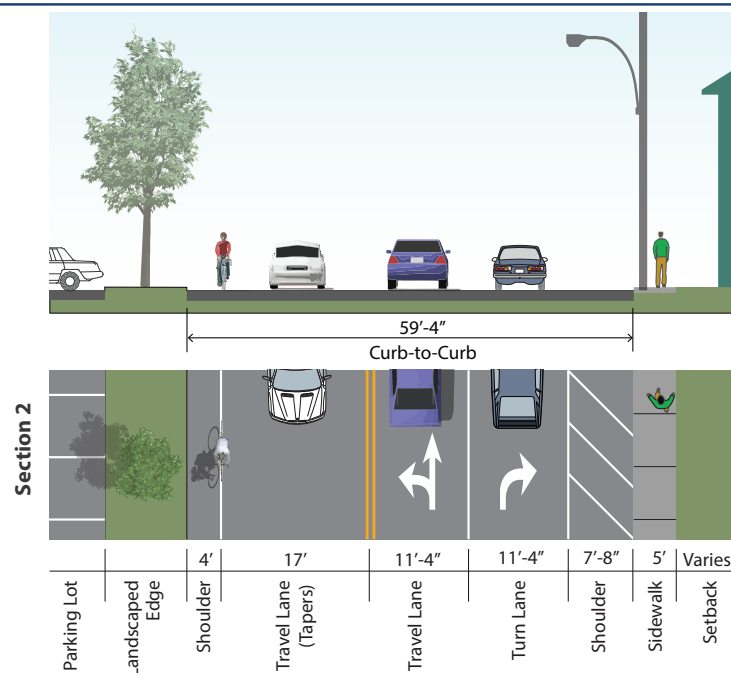
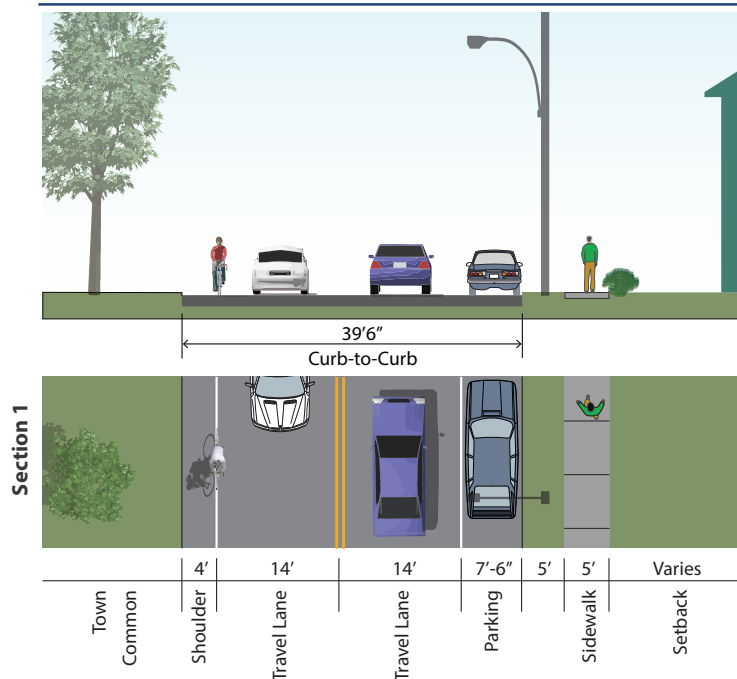
-  Proposed sidewalk (5' minimum)
-  Target area for speed reduction
-  Enhanced crosswalk treatment
-  Bike lane
-  Potential for wider sidewalk or 8'-10' wide paved path
-  Create a 90 degree angle intersection
-  Install bike parking racks
-  Section cut locations. See following pages for section graphics.
-  Section cut locations. See following pages for section graphics.

Note: All projects except bike racks will require additional engineering analysis and design

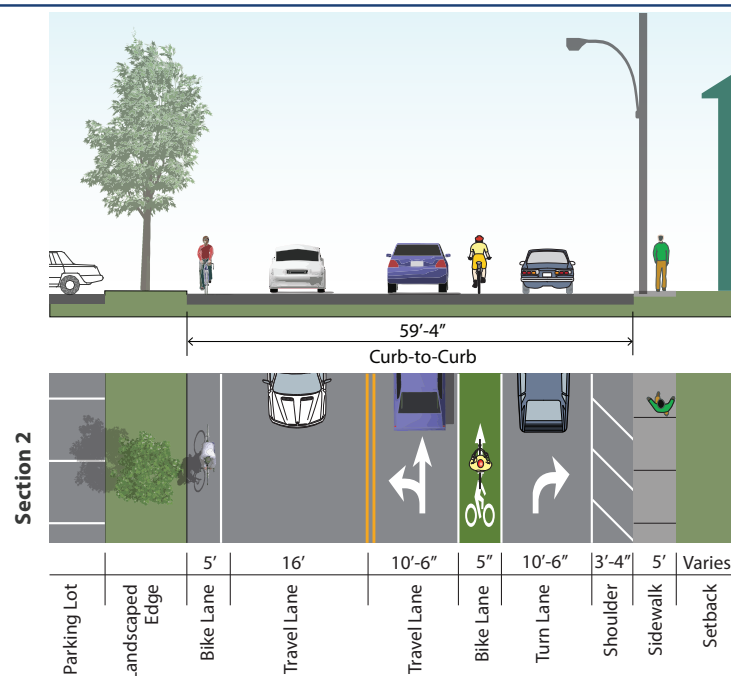
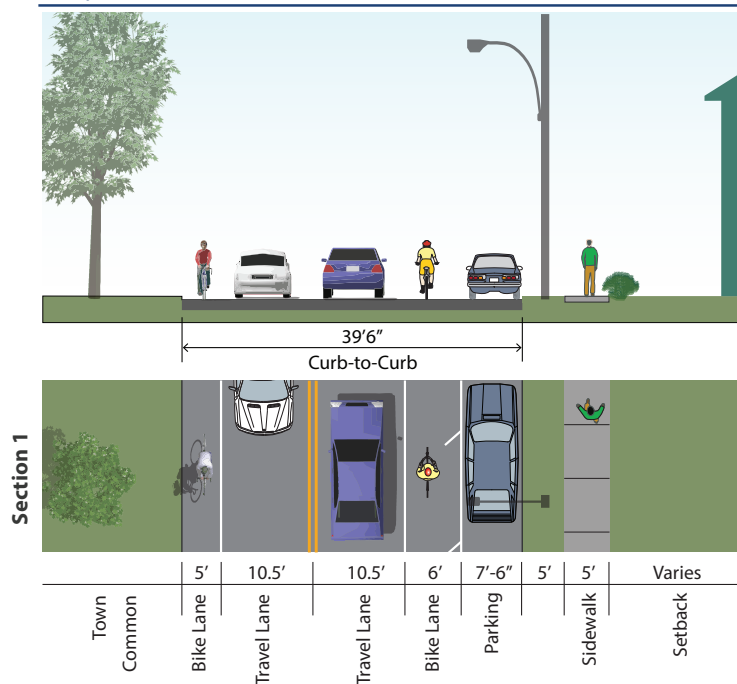


Recommended Main Street Bicycle Improvements

Existing Conditions Cross Sections



Proposed Cross Sections



Project Type	Location Type	Street Name	Extents / Address / Cross Street	Project Description	Reasoning
On-Street Facility	Spot	State St	70 State St	Install median refuge island or flashing beacon at key crossing	Median refuge islands create a more comfortable pedestrian environment by providing a refuge between directions of vehicle travel and helping to slow traffic; flashing beacons alert motorists to the presence of pedestrians and help to slow traffic as well.
On-Street Facility	Spot	State St	At Front St intersection	Install median refuge island or flashing beacon at key crossing	Median refuge islands create a more comfortable pedestrian environment by providing a refuge between directions of vehicle travel and helping to slow traffic; flashing beacons alert motorists to the presence of pedestrians and help to slow traffic as well.
Street Furniture	Spot	State St	At Chubby's Plaza	Install "Inverted-U" bicycle parking racks.	This is a key destination for many age groups, particularly students, and the installation of bicycle parking racks will encourage healthy active transportation and reduce the likelihood of bicycle theft
On-Street Facility	Spot	State St	In Chubby's Plaza	Work with property owner to enhance motorist and pedestrian safety with re-striping of parking lot to improve pedestrian accessibility from the sidewalk to the business entries	The parking lot and circulation patterns around Chubby's Plaza are in need of restriping to provide order to motorists and pedestrians traveling to and from this local business
Sidewalk	Corridor	State St	From Front St to 70 State St (north side)	Widen sidewalk or install 8' to 10' wide path	This path will allow safe, off-street bicycle and pedestrian travel for students traveling from area schools, businesses, and residential areas
On-Street Facility	Spot	State St	Just west of Main St / South Main intersection	Consider bike lane between through-left and right turn lanes plus bike box	This bike lane would greatly enhance the feeling of safety among area cyclists
Intersection	Spot	State St	At the confluence of Maple St and State St (just east of where Howard St meets Maple St)	Create a 90-degree angled intersection	This intersection is at the end of a very short segment of Maple St, therefore causing very little to no additional delay if motorists were rerouted to make a 90-degree left or right hand turn onto of from State St. 90-degree angled intersections provide clarity and enhance safety for all modes by allowing drivers to establish eye contact with cyclists and pedestrians at the intersection
Street Furniture	Spot	Park St / Town Common	On the west side of the Town Common, adjacent to Park St, from E. walnut to the Town Common parking lot	Construct 8' - 10' wide paved sidewalk or trail	The Town Common would benefit from accessible sidewalk / trail access on all sides

Project Type	Location Type	Street Name	Extents / Address / Cross Street	Project Description	Reasoning
Street Furniture	Corridor	State St	The hilly segment: just east of the intersection at Maple and South Main to the Maple St / Howard St intersection	Explore opportunities for benches on the hilly segment of road	Benches will provide important resting stops for pedestrians and cyclists who otherwise would have chosen to drive
On-Street Facility	Corridor	Main St	From E. Walnut to Maple (explore opportunities north of Walnut)	Stripe bike lanes on both sides of the roadway.	Bike lanes provide an enhanced perception of safety among cyclists by clearly delineating where they belong on the roadway
Crosswalk	Spot	Main St	Across Main St and Walnut St	Install median refuge island	Median islands create a more comfortable pedestrian environment by providing a refuge between directions of vehicle travel and helping to slow traffic
Crosswalk	Corridor	All Streets	--	Update all crosswalks to continental (preferred), ladder, or zebra style	These styles of crosswalks are more visible to motorists, which can impact the likelihood that they will yield to pedestrians, and continental-style crosswalks have a longer life span as their design includes gaps that align with the wheels of passing vehicles
Intersection	Spot	At Chubby's Plaza	State St at Front St	Long term redevelopment of the State / Front intersection to potentially include a traffic signal, improved crosswalk and signage and a refuge island in lieu of a signal	Poor conditions lead to confusing circulation patterns at Chubby's Plaza and at the State / Front intersection
Sidewalk	Area	Swift River and Chestnut Hill School driveways	--	Construct sidewalks along Swift River and Chestnut Hill School driveways to State Street*	Currently, there are no pedestrian facilities (or ADA access) that allow students or staff to walk safely from either school to State Street, or beyond to the Senior Center or skate park

* Portion of proposed sidewalk within 50' of Route 202 can be funded as part of corridor reconstruction project



Walk/Bike Northampton Engagement Efforts

September 2016

funded by:	Funder's Network for Smart Growth & Community Foundation of Western Massachusetts
facilitated by:	Pioneer Valley Planning Commission
on behalf of:	Office of Planning & Sustainability, City of Northampton
staff team:	Ashley Eaton, Emma Febo, Catherine Ratté, Dillon Sussman
in collaboration w/:	Casa Latina, Human Rights Commission, Northampton Housing Authority

Introduction

Introduction:

In 2016, the City of Northampton began the process of creating a bicycle and pedestrian plan called Walk/Bike Northampton. This plan will serve as the basis for an update to the City's transportation chapter of the sustainability plan. The creation of this plan included extensive outreach, an analysis of existing conditions and the inclusion of best practices in bike and pedestrian planning in similarly sized cities around the region. The City brought the Pioneer Valley Planning Commission, Alta Planning, and WatsonActive in to assist in the creation of this plan.

Through this process, the Pioneer Valley Planning Commission worked to engage people that are too often left out of the traditional planning processes in the Walk/Bike Northampton Plan through funding provided by the Funders Network for Smart Growth and the Community Foundation of Western Massachusetts, to assure an equity focused Complete Streets Plan. This work is the first phase of efforts to identify strategies to re-energize democracy in Northampton.

Summary of Tasks:

The following is a snapshot of tasks completed during the Walk/Bike Northampton planning process. Each task is explained in detail in the remainder of this report.

- Hired a community organizer from Casa Latina to assist with outreach
- Ongoing collaboration with the City's Human Rights Commission
- Distributing fliers at Northampton Housing Authority to promote Public Forum #1
- Participation in Walk/Bike Northampton Public Forum #1
- Launched survey on state of engagement practices in Northampton's planning processes
- Focus Group at Casa Latina
- Distributing fliers at Northampton Housing Authority's seven properties advertising upcoming drop-in meetings
- Launched Wiki-map application
- Hosted drop-in meetings at seven Northampton Housing Authority properties at which we publicized and promoted the Main Street Design Workshop and Public Forum #2
- Door-to-door outreach at Northampton Housing Authority properties to leave information about Public Forum #2
- Participation in Walk/Bike Northampton Main Street Design Workshop
- Participation in Walk/Bike Northampton Public Forum #2
- Participation in the Walk/Bike Northampton Main Street Demonstration Day
- Documentation of Demonstration Day via video creation
- Ongoing participation at the Northampton Pedestrian and Bike Advisory Committee
- Recruited representative from marginalized groups to serve on Pedestrian and Bike Advisory Committee

Engagement

Summary of Input:

In sum, the perspectives on walking and bicycling shared by residents engaged via Casa Latina, the Human Rights Commission and the Housing Authority properties were more about specifics for walking--with requests for more sidewalks to assure connectivity, especially to school and parks from residential neighborhoods as well as other important destinations, and highlighting the need for sidewalk repair and maintenance, especially for wheel chair accessibility and to avoid elderly falls due to cracks and un-smooth surface, combined with the importance of lighting for safe walking at all hours. With respect to bicycling, people engaged do not, for the most part, feel that bicyclists belong on the road, so the need for bike lanes on streets as well as off road bike paths was highlighted. We also understood this as an expression of need for a broad public information and education campaign to inform Northampton residents that a bicycle is a vehicle and as such belongs on the road.

A potential area of conflict surfaced with respect to the City's commitment to prioritize pedestrian infrastructure within a close proximity to the downtown--where services are concentrated, versus the high cost of housing within this same area. The residents we engaged, tend to be less well off economically and not including the people who live in the Housing Authority properties downtown, cannot afford to live close to the City center. These people would like sidewalks in the outlying neighborhoods.

Key Issues Surfaced:

Key issues identified in this outreach work include the following:

- The lack of sidewalks connecting to parks and schools
- The perception that bicycles do not belong in the road because it is dangerous
- The need for sidewalk maintenance. The state of disrepair makes it dangerous for the elderly and impassable for those in wheelchairs
- The presence of dog feces on the bike path
- The perception that the bike path is dangerous
- The desire for lighting to be added along the bike path
- The need to educate drivers, bicyclists and pedestrians about safe operating practices

Engagement

Public Forum # 1:

The first Walk/Bike Northampton public forum was held on March 7, 2016. This meeting was advertised through a variety of means by the City staff and consultants. In addition to the traditional outreach/engagement, we posted fliers at the City Housing Authority properties and at various community bulletin board sites identified by the community organizer at Casa Latina and by members of the Human Rights Commission. Outreach to marginalized populations started later than planned due to difficulty connecting with the Housing Authority staff. Once we connected with the Housing Authority staff they were helpful.

While the meeting was well attended, the populations in attendance included mostly the populations that typically participate in the City of Northampton's planning processes (white, upper-middle class, highly educated, older adults).

Spanish translation services were offered at the meeting through the UMass Translation Center and the Pioneer Valley Interpreters. Childcare was also provided on site through a local childcare provider. The translation services were not used. The childcare was well-received by the three or four families that used it. Some families reported that the presence of childcare made it possible for them to participate in this meeting.

The City distributed a survey at this public forum that assessed participants' ideas, attitudes, and behaviors with respect to their participation in government planning processes. Seventy-eight people in attendance completed and returned the survey. Results from this survey can be found later in this report.



Focus Group at Casa Latina:

We worked with Casa Latina to host a focus group on Tuesday, March, 29th. Participants were invited to share a meal, talk about what walking and biking around Northampton is like for them and participate in a map based activity. There were approximately ten people in attendance. The group was mostly women who play an active role in their communities. They expressed that they felt knowledgeable enough to speak on behalf of Northampton's Latino population.

A few key themes emerged. While not directly related to walking and biking, participants shared that **transit improvements are very important and they believe that more Latino residents use transit than walking and bicycling as their primary means of transportation.** They also shared that they **don't feel comfortable going to and hanging out in downtown Northampton.** For example, some participants stated that even though they live in Northampton, they are much more likely to spend time in Holyoke where they feel accepted by the community.

Engagement

Open House at Casa Latina Cont.:

Three major themes arose from the conversation regarding walking and bicycling:

- **Infrastructure improvements should be prioritized near parks and schools.** Many of the schools lack sidewalks on the streets surrounding them, making it more challenging for children to walk or ride a bicycle to school. There are also a number of parks that lack sidewalks or bike lanes connecting to the neighborhoods. Participants shared that they will drive their car from their house to the nearest park in order to walk for exercise, but would be more likely to walk to the park if there were better sidewalk connections.
- **Many participants enjoy the bike paths in the city, but feel that they could be improved with better connections and amenities.** Some shared that they would like to see bike lanes and sidewalks leading to the paths. There was also a discussion of lighting, bicycle parking, and bike fix-it stations that would make the bike paths more enjoyable spaces.
- **Better education for all people (drivers, pedestrians, and cyclists) is needed.** There was a consensus that drivers, cyclists and pedestrians could all use a primer on the rules of the road. There were concerns about distracted drivers and jaywalking pedestrians. A few of the participants were also parents and suggested that education in the schools on walking and biking might be the most effective because the children are likely to come home and excitedly share what they learned with their parents.

Door to Door Outreach:

Between March 29 and April 8, we went door to door in seven Northampton Housing Authority properties with information about upcoming meetings. If residents were home, we shared information about Northampton's efforts to create a bike and pedestrian plan and outlined when we would be in their community seeking input. Some of the residents with whom we spoke with were interested in the work being done and expressed excitement that the meetings would be held in their building. If residents were not home, a flier that was in both English and Spanish, advertising the upcoming meetings was left at their door.

Drop-in Meetings at Northampton Housing Authority's Seven Communities:

Between April 11th and April 20th, drop-in meetings were held at the following Northampton Housing Authority properties:

- Cahill Apartments
- Florence Heights Apartments
- Forsander Apartments
- Hampshire Heights Apartments
- McDonald House
- Salvo House
- Tobin Manor

Meetings were held in each building's community room from 5:00-7:00pm. Residents were invited to share their ideas and concerns regarding walking and biking, take surveys, ask questions and enjoy food. Over the course of the seven meetings, approximately 90 people provided input. There was a strong representation of youth and elderly, as well as individuals with mobility challenges. A brief description of each meeting follows and complete notes are available.

Engagement

Cahill Apartments

The meeting was attended by eight people-four people that arrived exactly when the meeting started and stayed for a while and four people that dropped in briefly. A significant amount of detailed input was received. Major concerns included the needed for lighting on the bike path, clear and consistent signage, ongoing sidewalk maintenance and education to all about sharing the road. There were also a lot of input from individuals with mobility devices that cited bumpy sidewalks, too short of crossing times at intersections and areas lacking pedestrian crossing signals.

Florence Heights Apartments

The community room at Florence Heights is a unit in the development, that was located in a far corner of the complex. This made being visible to passers-by a challenge. Good weather allowed us to set up outside increasing our visibility. A core group of young people and a few parents participated and encouraged others to participate. A smaller number of very specific comments were received. They included concerns about using the rail trail due to crime, dog feces and bicyclists riding fast. They also want to see sidewalks and bike lanes connecting to schools.



Children at Florence Heights Apartments enjoy pizza, while they talk about walking and bicycling.

Forsander Apartments

Forsander Apartments has a very active tenant association and president, who worked to promote our meeting after we had gone door to door with information. This meeting was well attended with many residents arriving right at 5:00pm and staying for over 1.5 hours. Of particular concern to residents were the lack of lighting, presence of dog feces and crime happening on the bike path. The prevalence of jaywalking and motorists that fail to yield for pedestrians was also a major concern.

Hampshire Heights Apartments

A core group of five young people and their parents attended, plus a few young people and neighbors dropped-by briefly. The community room was a small unit at one 'cul de sac' of the development, but weather was good so we were outside and very visible to passers by. Information from this meeting was quite different than other locations, likely due to the youth presence. Input was also more spontaneous and in response to questions. The main feedback we received was regarding increased bike parking throughout the city and better bike and pedestrian connections from the neighborhood to the school, downtown and the bike path.



Residents at Cahill Apartments

Engagement



Children at Hampshire Heights Apartments writing down their thoughts.

McDonald House

This meeting was attended by a smaller group of committed residents. Our meeting time overlapped with regularly scheduled bingo event, so we were able to get input from residents that were waiting for bingo to begin. Attendees were most concerned with traffic downtown and challenges navigating the nearby area in a wheelchair or with a walker. Individuals using mobility devices stressed that cracked sidewalks, missing curb cuts and inconsistent snow removal on sidewalks and curb cuts makes navigating the city challenging. Additional comments included feeling unsafe due to speeding motorists, panhandling and recent crime on the bike path.

Salvo House

The community room is right off the lobby and includes a large and TV room. A motivated core group of 12 people stayed for a minimum of 45 minutes and some whole time, plus 7 passers by who stayed a range of 3-20 minutes. Significant, meaningful, detailed input was received during this meeting. Many felt that the bike path is a great

“I wish there were sidewalks
so I could walk to school.”

-Dion and Jomar, youth at
Florence Heights

community benefit, but had concerns about safety. There were also concerns that redesigning main to provide accommodations for all modes would impact businesses.

Tobin Manor

An active group of residents promoted the meeting in addition to our door to door research. These same residents were in attendance along with a number of other drop-ins through the evening. Participants at Tobin articulated that they would like to see sidewalk bulb-outs to increase pedestrian visibility, public information campaigns about sharing the road, and pedestrian crossing signals. They also stressed the importance of trail etiquette, lighting and maintenance.



*Sign made by
Forsander Tenant
Association
advertising
our meeting*

Engagement

Collaboration with the Human Rights Commission:

The City's Human Rights Commission was informed and engaged in the Walk/Bike Northampton planning process. Staff presented to the HRC twice as a means of getting input.

Main St. Design Workshop:

A design workshop focused on Main Street was held on May 10th. Outreach for this event was limited, as the focus was on soliciting input from those that would be most impacted by a redesign of the street. We did have fliers about the workshop available in both English and Spanish at all of the Housing Authority meetings and encouraged residents to participate. Spanish translation and childcare were also provided at the meeting. Translation services went unused, but childcare was used.

The meeting was attended by a fair amount of people, but was not attended by the groups of people that we had been actively trying to engage in the process up to this point. Participants were asked to create a cross-section of a street they'd like to see built in downtown Northampton. Pictures were taken of each cross-section designed and will be used to inform recommendations regarding Main Streets redesign. Participants also had an opportunity to share why they allocated space in the right of way the way they did.

Public Forum #2:

The second and final Walk/Bike Northampton Public Forum was held on May 18th from 5:30-7:30pm. Advertisements for the meeting were provided in both English and Spanish and were pushed out through various channels, including all seven of the Northampton Housing Authority properties where drop-in meetings were held. The meeting was well-attended, but mainly by the people that are always keyed into the process. There were at least two participants that had previously attended drop-in meetings. Both childcare and Spanish translation were available. The childcare was well-utilized, but the Spanish translation services again went unused.

At the meeting the Alta, Watson Active and PVPC presented on what had been done up to this point in the process, key findings, and recommendations that will be included in the City's plan. After the presentations, participants broke out into groups to discuss infrastructure recommendations likely to appear in the plan.

Bicycle and Pedestrian Advisory Committee:

The Northampton Bike and Pedestrian Advisory Committee's monthly meetings served as an opportunity for the various groups working on the plan update to convene and share information. We regularly attended these meetings and updated the committee on results from engagement efforts.

Engagement

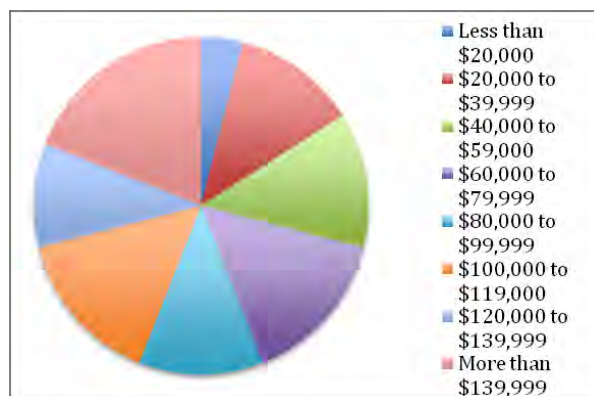
Wiki-mapping Application:

PVPC launched a wiki-mapping application on April 8, 2016. The wiki-mapping application allowed users to share spatial information regarding bicycling and walking. Residents and visitors to the city could use the map to mark routes that are good for walking or biking or point out places that need improvements like sidewalks, crosswalks, bike lanes, or new street trees. The wiki-map can be found here: <http://wikimapping.com/wikimap/WalkBike-Northampton-Plan.html>

The map was publicized through a press release, the city's email list and a number of email lists for prominent community organizations. About 110 people contributed to the map. The wiki-map was available for use at our seven drop-in meetings, but attendees were much more interested in talking and writing on physical maps. None opted to use the wiki-map.

One of the purposes of the wiki-map was to test whether it would be an effective method for gathering input from populations that are not normally represented in planning outreach in Northampton.

Demographic data collected by the wiki-map's survey shows that highly-educated and higher income residents were over represented, while lower income residents were under-represented.



Income of wiki-map respondents



Income of Northampton Residents overall (2014 ACS)

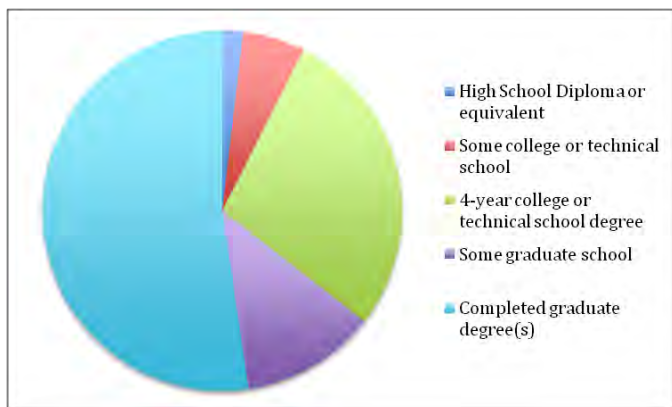
The wiki-map was fairly representative in terms of age, although it under-represented people under 25 and over 75. Interestingly the wiki-map over-represented respondents 25-34 which, anecdotally, have been an underrepresented group in city planning outreach efforts.

Nearly all respondents were white.

Engagement

Wiki-mapping Application Cont.:

Survey respondents were significantly more educated than the population at large. For example, 52% of wiki-map respondents had completed graduate degree(s) while only 32% of Northampton's population holds a graduate degree. 92.5% of wiki-map users had a college degree or higher compared to 68% for the city as a whole.



Highest education level achieved by wiki-map users

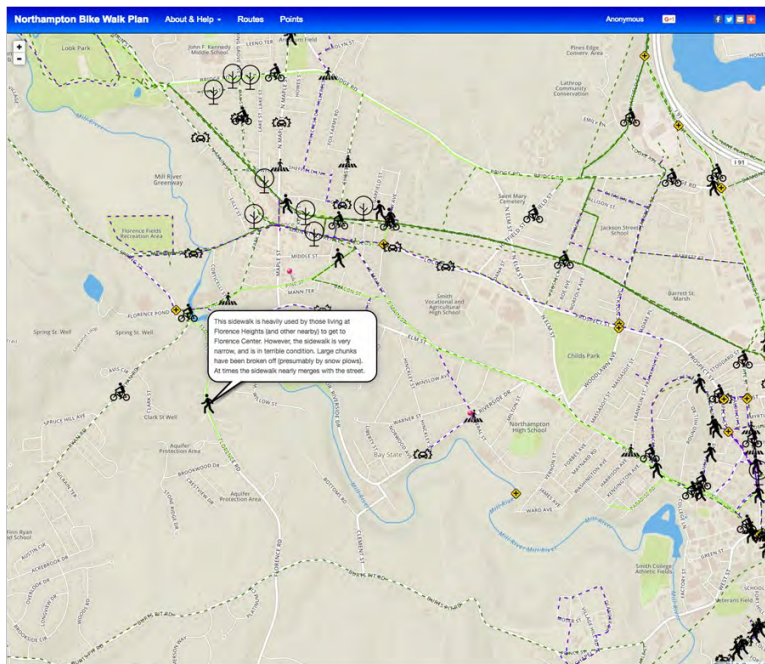
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It appears that wiki-mapping may be an effective method for reaching younger people. It does not appear to be an effective method of gathering input from low-income, low education, or minority residents. One caveat to this is that the methods of publicizing the wiki-map may have biased who used it. In other words, broader publicity and education about how to use the wiki-map may have resulted in more diverse responses.

Does wiki-mapping provide meaningful input?

The wiki-map gathered a large amount of very specific data about specific problem areas and opportunities for improvement in the city. The quality of the input varied from respondent to respondent. Some people choose to just indicate a problem area, while others wrote detailed descriptions of the problem at hand. The latter was far more useful. The level of detail and site-specific nature of the input would have been difficult to gather through other formats. Similar input was gathered in the first public forum, but the wiki-map input was arguably more detailed and easier to assimilate into a planning process because it was already geo-referenced.

One of the most effective features of the wiki-map is that users can turn on and off data entered by other respondents. This enables members of the public to get a sense of how their input compares to other people. This could be an effective tool for democratizing the control of information in planning.



Screen-shot of wiki-map in action showing all respondent routes and points. Comment information from a specific point is shown.

Engagement

Wiki-mapping Application Cont.:

Wiki-mapping appears to be a promising tool for gathering and tracking citizen complaints and requests. The DPW could establish a permanent wiki-map site for citizen complaints including requests for traffic calming. Of course, the DPW would need to bear in mind that the would likely over-represent high income and well educated individuals.

Having staff entering input into a wiki-map during, or after, a public forum might be another effective way to track and share public input. Entering data into a standard on-line GIS map would be equally effective, but a wiki-map could be operated by a low-cost intern instead of a skilled GIS analyst, thereby saving money.

Main St. Demonstration Day:

A demonstration day highlighting physical changes that could be made on Main Street was held on Saturday, June 18th. The demonstration included the creation of a temporary buffered bike lane and two pocket parks. There were also tables and chairs added to the sidewalks and the city had an area with maps, information and opportunities for people to add their ideas.



A temporary protected bike lane on Main Street during demonstration day.

This endeavor by publicized through a press release to local media outlets and a flier that distributed in English and Spanish. This event gave people the opportunity to literally feel how Main Street could function differently with amenities that would make the street more pedestrian and bicycle friendly. People were invited to share their thoughts during the event and the happenings were captured through video recordings.



A family crossing the street during demonstration day.

Survey Results

In preparation for the second phase of work, which will focus on re-energizing democracy in Northampton, participants were asked to take a survey about engagement practices in Northampton. The results are included below.

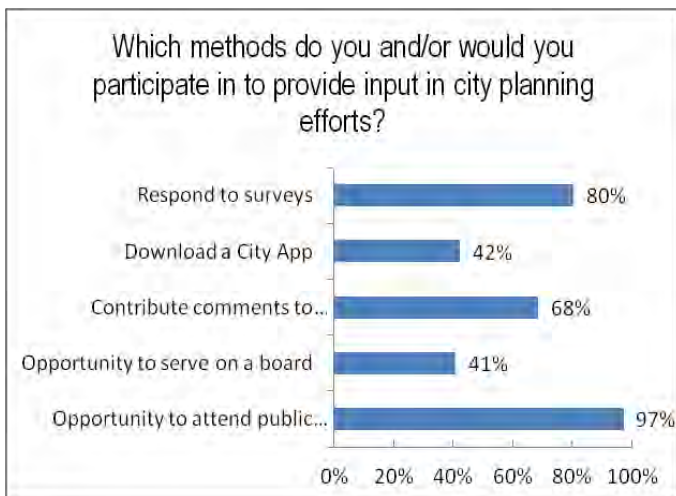
Survey Results:

Residents in Attendance:

Almost all attendees identified Northampton as their place of residence. A few attendees, however, identified that they were from other places in the region including Easthampton, Amherst, Greenfield and Belchertown, suggesting that there is interest in the bike and pedestrian planning that happens in Northampton from beyond its borders.

Current/ Preferred Engagement Techniques:

Respondents were asked to select the types of participation they currently take part in or that they would be willing to take part in in the future. There was a high response rate for the traditional means of engagement (Public meeting, responding to surveys and commenting directly to staff). A direct conclusion that the status quo is functioning well should not be drawn. This question paired both current and preferred methods and because all respondents were filling out a survey at a public forum, they were likely to select that box.

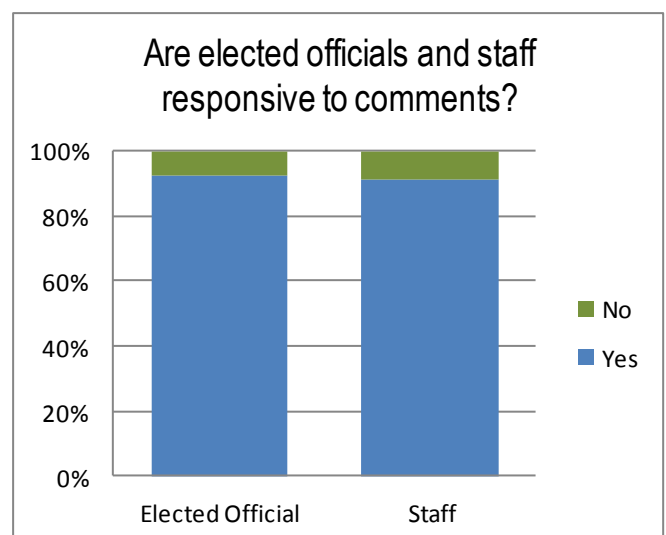


Approximately 42 % of respondents said that they would participate using a smart phone app. Written comments either expressed a strong disdain for the app or suggested that it should also be available on the internet so that those with a smart phone can participate.

Navigating Government Infrastructure:

Respondents who attended the first public forum appear to understand how to navigate through the existing government structures in order to have their voices heard. Sixty percent of respondents who would be willing to serve on a committee know how to do so. Additionally almost 70% of respondents agreed that they know how to contact or reach an elected official or staff member in order to share their thoughts.

Beyond just knowing how to share their comments and get involved, many participants felt that the city was responsive to their comments. Ninety-two percent of respondents felt that elected officials were responsive, while 91% of respondents felt that staff were responsive.



Survey Results Continued

Challenges Impeding Engagement:

Respondents were asked to identify the challenges that they face when participating in the city's planning processes. Top responses included not having the time to participate, not knowing how to participate or not receiving information about opportunities to participate. These challenges can be remedied by more effective communication. Articulating how and when there are opportunities for structured participation and what the participant will be expected to do could help lower the barriers to participation. Other barriers to participation include the long time frames tied to planning processes and the inability to often track how these particular forums impact the end results.

Very few respondents (1.79%) cited an unwelcoming environment as a challenge to participation. They also didn't feel that the language used by decision makers or staff members was confusing to understand. Access to transportation to get to meetings was also identified as a very low challenge to participating. Some respondents commented that they felt very welcomed when they come to participate and others shared that they appreciated the child care provided on site.

These results likely only tell part of the story. The people at these meetings clearly knew where to be and when in order to participate. Upcoming engagement efforts with the commonly unengaged can be used to understand if these speculations are accurate or if there are other challenges not identified here.

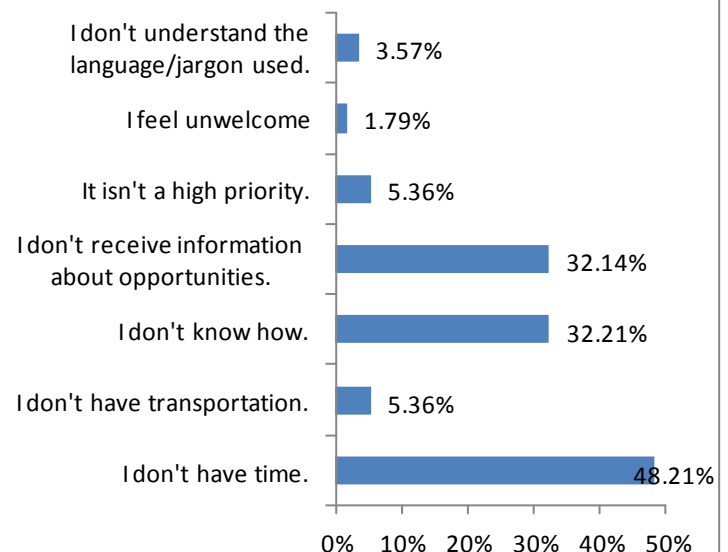
"Thank you for providing day care!! On site."

"I would love to see a meeting like this at a low-income housing community with Spanish translation."

"The bike/ped subcommittee meets early in the morning. The transportation committee meets at 4pm. I would have to leave work early."

"Want to see results. I wonder if these meetings result in anything."

What are the challenges you face in participating in city planning processes?



Survey Results Continued

Engaging friends, families, and neighbors

Respondents were asked to identify things that they believed would help get family, friends and neighbors engaged in City planning processes. A major theme was engagement at the neighborhood level. Approximately 71% of respondents wanted meeting in their neighborhood in addition to a large community-wide meeting.

Respondents also echoed the need for better publicity. When asked which forms of publicity they felt would be the most preferable, email or text sign up services that send out information and reminders was the most popular option, followed by information disseminated through Ward/City Councilors.

Respondents also responded favorably to the idea of a Northampton Resident Engagement Team, which would leverage volunteers who would serve as liaisons between citizens and government. Respondents even identified that this was something they would volunteer to be a part of it were to exist.

Survey Results from Drop-in Meetings:

The same survey was distributed at the city-wide public forum and at the seven drop-in meetings that were hosted over the course of the April. The results between the two groups of participants differed considerably, likely due to demographic differences. Major differences are highlighted below.

Navigating Government Infrastructure:

While residents at the city-wide public forum expressed ease in navigating government infrastructure, a majority of participants in PVPC's drop-in meeting highlighted this as a major challenge. Almost 85% of survey respondents from the drop-in meetings stated that they don't know how to serve on a committee or contact

elected officials or staff. This is a startling difference from the 67% of public forum respondents that know how to serve on a committee if they desired to and the 70% that know how to contact elected officials and staff.

Challenges to participation:

The biggest challenge participants stated they face when trying to participate in planning activities was simply a lack of knowledge regarding how to participate. Participants also stated a lack of transportation and feeling unwelcomed at meetings as major challenges. These reasons are almost completely opposite to those challenges identified in the city-wide public forum where the lack of time was the biggest challenge. So the disconnect lies in the fact that those that feel they don't have time to participate in government processes have the know-how, and those that have the time don't have the knowledge to do so.

Preferred Engagement Style:

One similarity between all survey respondents, no matter the survey location, was the desire to have meetings at the neighborhood scale in addition to or instead of the city-wide ones (70% for drop-in meeting participants and 71% for city-wide public forum participants.) Beyond this though, the differences continued when asked what the preferred means of notification regarding engagement opportunities would be. Participants from the public forum were far more likely to express interest in the notifications regarding meetings in electronic form. Drop-in meeting participants were most interested in paper mailings sent to their home as the main means for communicating that meetings were happening.

Public Comments at Main Street Demonstation Project - June 18, 2016

COMMENT		LOCATION	BOARD NUMBER/NAME	PHOTO
1	Fanastic idea + finally. The 2 lanes in both directions confuse drivers and create probems now. 1 lane in each direction is fine! Way too much congestion with everyone battling for space. Love your ideas!		1 - Wide Sidewalks with Separated Bike Lanes	
2	We love gardens and benches!		1 - Wide Sidewalks with Separated Bike Lanes	
3	Love separate bike lane and single lane in each direction.		1 - Wide Sidewalks with Separated Bike Lanes	
4	I love the protected bike lane! This works in other cities.		1 - Wide Sidewalks with Separated Bike Lanes	
5	I like the bike lane between sidewalk and parked cars.		1 - Wide Sidewalks with Separated Bike Lanes	
6	Nice landscaping!		1 - Wide Sidewalks with Separated Bike Lanes	
7	Wonderful gardens! Nice pedestrian areas.		1 - Wide Sidewalks with Separated Bike Lanes	
8	Parallel parking will also slow traffic. Yes!		1 - Wide Sidewalks with Separated Bike Lanes	
9	I like the progression from sidewalk to street: Pedestrian - Bike - Parked Cars - Moving Cars. Suggestion: Make Main St one way for cars. (East bound traffic could be routed to South St or State St.)		1 - Wide Sidewalks with Separated Bike Lanes	
10	Put car parking in garage and parking lots behind buildings off the streets. Replace bike lanes (especially Pleasant St / narrow streets)		1 - Wide Sidewalks with Separated Bike Lanes	
11	Please consider University Ave in Palo Alto (CA) as a great model!		1 - Wide Sidewalks with Separated Bike Lanes	
12	Traffic needs two lanes right here. Otherwise great plan.	Main St between Strong and Pleasant.	1 - Wide Sidewalks with Separated Bike Lanes	
13	Widen the sidewalks.		1 - Wide Sidewalks with Separated Bike Lanes	
14	I love narrowing Main St will be good for businesses / foot traffic.		1 - Wide Sidewalks with Separated Bike Lanes	
15	Careful that bike lanes do not run where there are drains in road.		1 - Wide Sidewalks with Separated Bike Lanes	
16	This is the best option! Safest and most traffic calming.		1 - Wide Sidewalks with Separated Bike Lanes	
17	I like #1, Best Option #1.		1 - Wide Sidewalks with Separated Bike Lanes	
18	Although initially resistant, I can now see the safety benefits of one lane in each direction.		1 - Wide Sidewalks with Separated Bike Lanes	
19	How about: keep two lanes of traffic (confusin slows traffic) and parallel parking only (visibility) and a bike lane curbside.		1 - Wide Sidewalks with Separated Bike Lanes	

20	We want: Traffic calming, café sidewalks, greening/flowers in mediands and sidewalks, safe bike lanes, care with perception.		1 - Wide Sidewalks with Separated Bike Lanes	
21	Wide sidewalks is a wonderful improvement, our sidewalks get very crowded.		1 - Wide Sidewalks with Separated Bike Lanes	
22	We're voting #1. Love bike lanes on sidewalk side of parking. And Trees! K+J - Jackson St, Northampton		1 - Wide Sidewalks with Separated Bike Lanes	
23	Love that there is additional space between cars and sidewalk with the bike lanes as a buffer. Exhaust is further removed.		1 - Wide Sidewalks with Separated Bike Lanes	
24	Safety first! Yes!		1 - Wide Sidewalks with Separated Bike Lanes	
25	Can we close Cracker Barrel Alley permanently?		1 - Wide Sidewalks with Separated Bike Lanes	
26	I love this little mini park here and the idea of making Cracker Barrel Alley into a garden.		1 - Wide Sidewalks with Separated Bike Lanes	
27	Look at separated bike lane design on Robinson bridge in Agawam.		1 - Wide Sidewalks with Separated Bike Lanes	
28	Don't reduce parking. Parallel parking too hard for many.		1 - Wide Sidewalks with Separated Bike Lanes	
29	Yes to protected bike lane.		1 - Wide Sidewalks with Separated Bike Lanes	
30	Love the mock-up of bike lane.		1 - Wide Sidewalks with Separated Bike Lanes	
31	In general, making downtown more walkable will add more opportunities and is a great idea.		1 - Wide Sidewalks with Separated Bike Lanes	
32	I strongly approve reducing & defining downtown traffic lanes that are too ambiguous. Let's do all this to improve walkability in downtown Northampton!		1 - Wide Sidewalks with Separated Bike Lanes	
33	Love the parklets!		1 - Wide Sidewalks with Separated Bike Lanes	
34	object to reducing Main St to one lane. We have a dying downtown now, and having more back-up of traffic into downtown (from Amherst, from the south) will increase the perception of hassle.		1 - Wide Sidewalks with Separated Bike Lanes	
35	I strongly approve of narrowing Main St. (Resident, Valley St, Ward 3)		1 - Wide Sidewalks with Separated Bike Lanes	
36	I like the flush median. Allows for flexibility. Didn't like removing parking spots. Need all we have!		1 - Wide Sidewalks with Separated Bike Lanes	
37	I like #1 the best. Safe and doable.		1 - Wide Sidewalks with Separated Bike Lanes	
38	Like it. Who has right of way at crosswalk. Pedestrians or bikes. Both will need to know!		1 - Wide Sidewalks with Separated Bike Lanes	

39	Separated bike lanes, YES! So many bike-friendly places do this now.		1 - Wide Sidewalks with Separated Bike Lanes	
40	So far, so good BUT please have no general parking on most of Main st. Use the parking lane for emergency vehicles, pedestrians drop offs, taxis, delivery, handicap, bus, etc. Bicyclists need to be educated about laws, equipment, and pedestrian rights.		1 - Wide Sidewalks with Separated Bike Lanes	
41	Seems good.		1 - Wide Sidewalks with Separated Bike Lanes	
42	Yes! Love the protected bike lane!		1 - Wide Sidewalks with Separated Bike Lanes	
43	Love this as a pedestrian and a cyclist. (Brendan, Ward 3)		1 - Wide Sidewalks with Separated Bike Lanes	
44	Shared use lane - how do you enforce it?		2 - Transit Priority Lanes	
45	Reverse diagonal parking is too confusing for most people.		2 - Transit Priority Lanes	
46	Want to make sure emerging vehicles have enough space.		2 - Transit Priority Lanes	
47	Love wide sidewalks and dedicated transit for bike / bus.		2 - Transit Priority Lanes	
48	This plus the bike lane close to the sidewalk is the best option. Make parking great again!		2 - Transit Priority Lanes	
49	Please don't take down and trees planted along the sidewalk. Trees are vital!		2 - Transit Priority Lanes	
50	I am a senior citizen and very uncomfortable backing up to parking. I would never do this.		2 - Transit Priority Lanes	
51	Hate everything about this for bikes.		2 - Transit Priority Lanes	
52	Don't like dedicated bus lanes - takes too much space. We don't have bus volumes like NYC or Boston here.		2 - Transit Priority Lanes	
53	Yikes! Not in bus lane!		2 - Transit Priority Lanes	
54	Narrowing Main St would make this road more friendly to pedestrians and cyclists. Many other routes for automotive traffic.		2 - Transit Priority Lanes	
55	No! Shared bus / bike lanes = disaster.		2 - Transit Priority Lanes	
56	Too much of the downtown is grubby. Clean up. Fix up. Make it tidy.		2 - Transit Priority Lanes	
57	I have biked these center lanes in Vancouver and didn't like it. Cars and people will ignore center lane.		2 - Transit Priority Lanes	
58	What is the goal? I recommend: 1) Making downtown as attractive to visitors who spend money (I'm not a business person) and 2) reducing the traffic to one lane will make a bigger back-up. And don't cut down the amount of parking.		2 - Transit Priority Lanes	

59	This seems like the least effective option.		3 - Wide Median with parking	
60	Raise awareness of bikes on roads.		3 - Wide Median with parking	
61	Too many different lanes of stuff alternating.		3 - Wide Median with parking	
62	Least favorite option = 3.		3 - Wide Median with parking	
63	Audible signals. Pedestrian activated signals.		3 - Wide Median with parking	
64	I would rather see extra street space used for cars/bike lanes or parking. We need them all!		3 - Wide Median with parking	
65	Cars / parking is next to sidewalk. Don't like that.		3 - Wide Median with parking	
66	Crosswalk light / sign needed at King St and Finn St		3 - Wide Median with parking	
67	Crosswalk at Finn / State needs redoing		3 - Wide Median with parking	
68	I really feel that a green median will serve no one. It will be a weird lonely place surrounded by traffic. Lets keep cars in the center and people/trees on the side.		3 - Wide Median with parking	
69	Backing out of center spaces is hazardous and will slow traffic.		3 - Wide Median with parking	
70	Not good. Imagine you're a parent with kids getting out of the car...and the traffic in between you and the sidewalk.		3 - Wide Median with parking	
71	I see a lot of jay-walking by people going to their parked cars.		3 - Wide Median with parking	
72	Close off Main St between City Hall and King / Pleasant and make a green park for pedestrians and bikes.		3 - Wide Median with parking	
73	On / off seems problematic for Main St with all of the "stop for shopping" possibilities.		3 - Wide Median with parking	
74	Can this option blend with option 1? Have separated bike lane behind parallel parked cars... Same space needed.		3 - Wide Median with parking	
75	We can't afford to lose parking spaces - parking in NoHa is already a headache.		3 - Wide Median with parking	
76	This general idea is great - make it happen!		4 - Median Bikeway	
77	Love it - great ideas!		4 - Median Bikeway	
78	Safer, quieter, provides a break from traffic using bie lane. Great.		4 - Median Bikeway	
79	Hard for bikes to get into and out of. Doesn't line up with lanes on other roads.		4 - Median Bikeway	
80	I like the idea of a flush median. Make it happen.		4 - Median Bikeway	

81	Reverse diagonal parking is too dangerous and confusing.		4 - Median Bikeway	
82	Bike signal required at intersection.	Pleasant at King	4 - Median Bikeway	
83	Residents of Main St would love the traffic effect!		4 - Median Bikeway	
84	Bus stop is needed here.	South side of Main St, East of Old South	4 - Median Bikeway	
85	Maybe bikers should be routed around downtown, instead of being the special interest that narrows Main St.		4 - Median Bikeway	
86	Response: We would like to cycle into town.		4 - Median Bikeway	
87	Bike lanes should easily connect to existing bike lanes and rail trail.		4 - Median Bikeway	
88	Remember the disabled traveler.		4 - Median Bikeway	
89	How do cyclists turn and access stores?		4 - Median Bikeway	
90	Make a special "place" in front of city hall.		4 - Median Bikeway	
91	Really need to figure out how to control traffic coming into this intersection. Cars move into right hand lane too early - safety issue.	New South St, heading north towards Main St	4 - Median Bikeway	
92	Crosswalk needed here	Main St at State St	4 - Median Bikeway	
93	Need to consider blind pedestrians		4 - Median Bikeway	
94	Like the concept, but doesn't seem practical		4 - Median Bikeway	
95	Better pedestrian access needed.	New South St	4 - Median Bikeway	
96	Doesn't work for cars or pedestrians. A Mess! (2 agrees)		4 - Median Bikeway	
97	Crosswalk from stairs at Smith (2 sets) needed needed. Remove parking space at bottom of stairs.		4 - Median Bikeway	
98	Yes. Like this one!		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
99	How will people get through bike lane to pay to park?!		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
100	Works well in Washington, D.C.		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
101	Love this.		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
102	I am all for pedestrian safety but I feel it goes too far in the Valley. Too many new 4-way stop signs added and too much unnecessary arrows painted on the roads. What happened to Stop, Look and Listen?		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
103	I strongly agree to reconfiguring traffic to create gardens of space in downtown Northampton for socializing, reading, resting, etc. Look at San Miguel.		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
104	Yes to this!		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
105	Love this, I think it is the safer option.		Main St Design Element Toolkit	Sidewalk Separated Bike Lane

106	Love this, cars very separated from sidewalks.		Main St Design Element Toolkit	Sidewalk Separated Bike Lane
107	Love this, it looks the safest!		Main St Design Element Toolkit	Street Level Separated Bike Lane
108	Street separated by bike lanes would "quiet" shopping and act as sound buffer and provide safer bike lane.		Main St Design Element Toolkit	Street Level Separated Bike Lane
109	Love this one!		Main St Design Element Toolkit	Street Level Separated Bike Lane
110	This looks the safest!		Main St Design Element Toolkit	Street Level Separated Bike Lane
111	Street level separated bike lane may reduce walk and J-walking which ties up our traffic and is dangerous.		Main St Design Element Toolkit	Street Level Separated Bike Lane
112	Cheap and simple help would be painted reflectors for traffic lines/bike lanes. No one knows where to drive now.		Main St Design Element Toolkit	Median Separated Bike Lane
113	Bad idea! Boston has high accident rate with bikes. No! Too dangerous!		Main St Design Element Toolkit	Median Separated Bike Lane
114	No! Dangerous! Cars will use bike lane for passing other vehicles		Main St Design Element Toolkit	Buffered Bike Lane
115	What happens when motorists open their doors to get out?		Main St Design Element Toolkit	Buffered Bike Lane
116	Bicycle lanes, separated with some sort of barrier or median ar necessary for safety. Drivers go into the bike lanes all the time around here, especially on Elm St, when they are impatient behind a car turning left. The drivers just drive into the bike lane without looking for bicyclists first.		Main St Design Element Toolkit	Buffered Bike Lane
117	Love the safety island by City Hall. Hate the reduction of traffic to one lane. Don't remove street trees on sidewalks.		Main St Design Element Toolkit	Flush Median + Crossing Island
118	We need an air walk or a High Line.		Main St Design Element Toolkit	Flush Median + Crossing Island
119	Seems problematic for Main St with bikes wanting to get in and out for frequent shopping stops.		Main St Design Element Toolkit	Flush Median + Crossing Island
120	Nice, but must clean up snow.		Main St Design Element Toolkit	Crosswalk with Landscaped Island
121	Really like safety island. I am a pedestrian and this would be an important change.		Main St Design Element Toolkit	Crosswalk with Landscaped Island
122	Wide sidewalks are great for eateries and outside tables!		Main St Design Element Toolkit	Wide sidewalk
123	More trees! Can't have too many.		Main St Design Element Toolkit	Wide sidewalk
124	Tourists need parking, and walking space. Single lane traffic and reduced parking makes crazy traffic and limited parking.		Main St Design Element Toolkit	Wide sidewalk

125	This would look very nice and help with puddles and snow.		Main St Design Element Toolkit	Bioswale Bump-Out
126	Look at de Allende, Mexico with its central Jardin. Everyone is drawn to be there for some time everyday. And, there is a cornucopia of street entertainment, string trios, Mexican music, puppeteers, dancing, etc. They are blessed with a large church as a focal point with a lot happening in the square in front.		Main St Design Element Toolkit	Bioswale Bump-Out
127	I like Keene's streetscape, Northampton needs something like it.		Main St Design Element Toolkit	Tree-lined Median
128	Any features that have high snow piled up in center of the road is a disaster in this climate.		Main St Design Element Toolkit	Tree-lined Median
129	Why create a lonely tree area in the middle of the road? No one will want to use it or take care of it.		Main St Design Element Toolkit	Tree-lined Median
130	Yes. Trees and calming down traffic!		Main St Design Element Toolkit	Tree-lined Median
131	This would be lovely!		Main St Design Element Toolkit	Tree-lined Median
132	Love this!		Main St Design Element Toolkit	Angled Parking + Trees in Median
133	This is gorgeous! Keep the cars in the center!		Main St Design Element Toolkit	Angled Parking + Trees in Median
134	Wasted space. People will walk over it.		Main St Design Element Toolkit	Angled Parking + Trees in Median
135	What a great and safe way to go. Plus more shade in the downtown area and more park-like.		Main St Design Element Toolkit	Angled Parking + Trees in Median
136	Don't decrease number of parking spaces too much! Older people need nearness.		Main St Design Element Toolkit	Angled Parking + Trees in Median
137	Love the Trees!		Main St Design Element Toolkit	Angled Parking + Trees in Median
138	In Japan I walked on many verhead pedestrian or bike crossways. There were stairs/ramps from each corner and they all met in the center of the intersection so a person would walk from and corner to another. So safe!		Main St Design Element Toolkit	Intersection Art
139	Would be great at Main / King / Pleasant and Main / State / Old South		Main St Design Element Toolkit	Intersection Art
140	This is scary in Boston. MBTA vs. Bikes.		Main St Design Element Toolkit	Dedicated Bus and Bike Travel Lanes
141	No! Scary for bikes.		Main St Design Element Toolkit	Dedicated Bus and Bike Travel Lanes
142	Yes to having a physical barrier between bikes and cars.		Main St Design Element Toolkit	Dedicated Bus and Bike Travel Lanes

143	<p>Current downtown traffic patterns definitely need changing. Cars parked in the parking garage, for example, are forced to enter the fray in order to go north, either turning left onto Main St or going to South Street and having to go through the horrible jam by the Academy of Music, where pedestrians are currently so unsafe. If a person crosses from where the Center for the Arts was formerly to the Academy of Music cars do not even stop who are coming down Rt. 9 and turning right there. One thing that would help is a no-turn-on-red when the pedestrian have the white "cross" sign lit.</p>		<p>Main St Design Element Toolkit</p>	<p>Dedicated Bus and Bike Travel Lanes</p>
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Public Comments Written by Attendees - March 7, 2016
Public Forum #1

COMMENT	LOCATION	CORRIDOR	CORRIDOR or SPOT	CHALLENGE
Why is bike lane and crosswalk striping done in spring instead of fall, shortly before snow falls and salt/sand grinds the striping off the pavement				
Scanlon Ave: How about a contra flow bike lane? (One way street inconvenient for cyclists)	Scanlon Ave	Between Bliss and Florence Rd	Corridor	Challenge
No stop sign / motorists don't stop for cyclists crossing	Finn St	Finn St at Prospect St	Spot	Challenge
Crosswalk on West St between Forbes and Smith parking garage needs traffic calming. Crosswalk is too long. Telephone pole restricts sight lines. Potential for one-way traffic calming (coming into town).	West St	West St at College Ln	Spot	Challenge
Key gap in sidewalk network	Bridge Rd	Along Bridge Rd between King St and Jackson St	Corridor	Challenge
High speed tractor trailers along South St suggestion: add medians at crosswalks	South St		Corridor	Challenge
No pedestrian crossing signal on traffic light at King St and Bridge Rd Intersection	King St	King St at Bridge Rd	Spot	Challenge
Poor visibility along Conz St	Conz St		Corridor	Challenge
Sidewalks on State St between Finn St and MassCentral Rail Trail are narrow and broken	State St	Between Finn St and Masscentral Rail Trail	Corridor	Challenge
Poor crosswalks to get across King St at rail trail bridge at North St	King St	King St at North St	Spot	Challenge
Cars don't stop for crossing cyclists or pedestrians on Pleasant St where the New Haven & Northampton Canal Line Trail crosses	Pleasant St	Pleasant St at New Haven & Northampton Canal Line Trail crossing	Spot	Challenge
Speeding traffic does not stop at crosswalks along Bridge St between Sherman St and Fair St	Bridge St	Bridge St between Sherman St and Fair St	Corridor	Challenge
Poorly placed crosswalk at North St / Day Ave / Bates Ave intersection	North St	North St at Day Ave	Spot	Challenge
Cars don't stop at stop sign at North St / Day Ave / Bates Ave intersection	North St	North St at Day Ave	Spot	Challenge
Why do funds become available for impromptu fixes after a fatality / injury? (South St by Academy / State St by Hungry Ghost Bread / Elm St at South St)				
Roadway is too wide, can be narrowed	Prospect St	Prospect St between Childs Park and Finn St	Corridor	Challenge
Fitzgerald Lake is a bicycle destination				Opportunity

Bliss St north / south traffic speeding issue: needs traffic calming. Sidewalks needed as well.	Bliss St	Bliss St between Willow St and Mill River bridge	Corridor	Challenge
Stilson Ave and Sheffield Ln has inadequate sidewalks	Stilson Ave	Stilson Ave and Sheffield Ln	Corridor	Challenge
Dangerous intersection at Hinckley at Nonotuck	Nonotuck St	Nonotuck St at Hinckley St	Spot	Challenge
Dangerous area for biking along Burts Pit Rd at big curve by Ray Ellerbrook Rec Field	Burts Pit Rd	Burst Pit Rd at Ray Ellerbrook Rec Field	Corridor	Challenge
Opportunity to connect Mill River Walk Trail from Federal St / Vernon St / Ward Ave neighborhood to Maines Field / Riverside Dr / Landy Ave neighborhood				Opportunity
No road striping / lane designation along Locust St from Straw Ave to Dana St	Locust St	Locust St from Straw Ave to Dana St	Corridor	Challenge
Critical need for sidewalks on Bridge Rd between King St and Jackson St	Bridge Rd	Between King St and Jackson St	Corridor	Challenge
Future funded Damon Rd sidewalk is very important for people without cars	Damon Rd		Corridor	Opportunity
Bridge St (school) traffic calming and traffic light needed, enforce no parking on sidewalk	Bridge St	Bridge St between Fair St and Old Ferry Rd	Corridor	Challenge
Add bike lanes on Pleasant St	Pleasant St	Pleasant St between Konz St and Main St	Corridor	Challenge
South St rumble strips have worked well to protect bike lane - use elsewhere	South St			Opportunity
Rework South St fatality location	South St			Challenge
All modes of transit should be efficient traffic flow - the town needs major work, more rotaries!				
Need east - west bike path north of 66				
Earlier and more street sweeping				
Look at school children's routes, walking gaps VS limit to busses eligibility / request				
Crosswalks materials / design that are more durable - instead of paint that wears away				
Get Safe Routes to Schools program				
Trail etiquette signage				
Radar speeding sign - requested for Riverside Drive	Riverside Dr		Spot	Opportunity
No bike/ped access to conservation land west of Dimock St / Arch St	Dimock St	Dimock St at Arch St	Spot	Challenge
Cars speeding around curve in road makes crosswalk between Warner Row and Leeds Elementary School dangerous to use	Florence St	Between Warner Row and Leeds Elementary School	Spot	Challenge

On-ramp needed for sidewalk at Warner Row and Florence St	Florence St	Florence Rd at Warner Row	Spot	Challenge
Florence St has no access to bike path	Florence St		Corridor	Challenge
Sidewalk at Florence St and Haydenville Rd ends with no connection to Look Park	Florence St	Florence St at Haydenville Rd	Spot	Challenge
Florence Rd is terrible for bikes / peds	Florence Rd		Corridor	Challenge
Ryan Rd is terrible for bikes / peds	Ryan Rd		Corridor	Challenge
Dangerous blind intersection that should be a rotary at Florence Rd / Pine St / Spring St	Florence Rd	Florence Rd at Pine St / Spring St	Corridor	Challenge
Inadequate sidewalk Beacon St where it meets Pine St	Beacon St	Beacon St at Pine St	Spot	Challenge
Nonotuck St just west of Hinckley St has a hill with poor sight lines	Nonotuck St	Just west of Hicnkley	Spot	Challenge
Locust St lack of striping and signage: is it 2 lanes or 4?	Locust St	Locust St in front of Smith Vocational High School	Corridor	Challenge
Light at North end of Childs park at interseciton of N Elm and Locust lacks bicycle detector loop signal	Locust St	Locust St at N Elm St	Spot	Challenge
Need website link for residents to post comments over the next few weeks				
Pedestrian bridge needed over Mill River	Mill River	River area between Federal St and Ward Ave	Spot	Challenge
Curb cuts needed on Franklin St	Franklin St	On Franklin between Bancroft St and Elm St	Spot	Challenge
No curb cuts make dangerous walking conditions on Round Hill Rd at Crescent St	Round Hill Rd	Roundhill Rd at Crescent St	Spot	Challenge
Forbes is a destination				Opportunity
King St overpass	King St	King St at (former) rail crossing between Church St and Hooker Ave	Spot	Opportunity
Make State St one way northbound between Main St and Trumbull Rd	State St	State St between Main St and Trumbull Rd	Corridor	Challenge
Left hand turn from Elm St onto West St is very dangerous	West St	West St at Elm St	Spot	Challenge
Pedestrian crossing needs improvement at State St and Finn St	State St	State St at Finn St	Spot	Challenge
Pedestrian crossing needs improvement at Summer St and King St	King St	King St at Summer St	Spot	Challenge
Access across railroad tracks desired between Pomeroy Terrace / Williams St neighborhood and Conz St / Pleasant St / Hotel area near downtown			Corridor	Challenge

Connect State St to bikepath and downtown. Town needs bike lanes and improved sidewalks. Solutions: one way cars, traffic calming, repaired sidewalks	State St			
Parked cars back up onto sidewalk at liquor store	Bridge St	Bridge St at Pops Package Store	Spot	Challenge
Great pedestrian experience on Lake St with narrow streets, 1 sidewalk, and lots of trees	Lake St	Lake St from Bardwell St to Bridge Rd	Corridor	Opportunity
Gap in pedestrian use of meadows (and dike) trails on either side of Rte 5	Rte 5 / Pleasant St	Pleasant St at I-91 ex 18	Spot	Challenge
Connection to Saw Mill Hills, to Mineral Hills and other places	Look Memorial Park		Spot	Opportunity
Hinckley St 2016 reconstruction with sidewalk	Hinckley St			Opportunity
Rt. 9 underpass	Rt 9	Just west of JFK Middle School	Spot	Opportunity
No right turn on Red suggestion	South St	South St at Old South St	Spot	Opportunity
There is residential housing on Damon Rd where it crosses beneath I-91	Damon Rd			Opportunity
Problems with debris and parked cars in bike lane	South St	South St from Fort St to Cedar St		
Protected intersections for bikes needed downtown				
At High School release time - traffic and safety issues for ALL modes				
Narrow more streets				
Separation needed between cars and bikes				
Sidewalks next to parking lots are a problem				
We need more street trees				
Pedestrian environment is key				
Encourage people to use alternate modes				
Bicycle education: defensive training, licensing bikes, more education in middle school and high school, education for drivers and pedestrians too, N.E.F. grant, Public Service Announcement for safe walk/bike, Drivers Ed should focus on Sharing The Road, each school should have a safety officer, sidewalk maintenance is key				
Higher levels of bicycle training, safety, and education will save the city money on bussing				

City should invite PVTA and representatives from school neighborhoods to next meeting				
Northampton Cycling Club (NCC) has overseen bike education program at the Jackson Street School				
Trucks on rt. 9			Corridor	Challenge
Plowing is an on-going issue on the MassCentral Rail Trail			Corridor	Challenge
Jackson St is a narrow roadway for bikes	Jackson St		Spot	Challenge
Visibility issue on Elm St between Prospect St and Bedford Terrace	Elm St	On Elm St between Prospect St and Bedford Terrace	Spot	Challenge
Missing sidewalks on Bridge Rd between King St and Jackson St	Bridge Rd	On Bridge Rd between Jackson St and King St	Corridor	Challenge
Key gap in sidewalk network: along King St between River Valley Coop grocery store and the intersection of King St and Barrett St	King St	Between River Valley Coop and Barrett St	Corridor	Challenge
State St has poor pavement and is narrow between the MassCentral Rail trail and Finn St	State St	Between MassCentral rail trail and Finn St	Corridor	Challenge
No plowing: MassCentral Norwottuck Rail Trail - consistency of plowing is key!	MassCentral Norwottuck Rail Trail		Corridor	Challenge
Underpass at intersection of North St and Market St: fix for schools	North St	North St at Market St	Spot	Challenge
Cracker Barrel alley visibility is low	Cracker Barrel Alley		Spot	Challenge
More trees to slow traffic on south St	South St	South St between Fort St and Cedar St	Corridor	Challenge
Transit connections to Amtrak needed on Pleasant St at Railroad Ave	Pleasant St	Pleasant St at Railroad Ave	Spot	Challenge
Bannett St sidewalk ADA issue and bumpy	Barrett St		Spot	Challenge
Bannett St: key route for bikes through the city	Barrett St		Corridor	Challenge
South St: speeding and quality of bike lane - prefer protected bike lanes	South St		Corridor	Challenge
Paint runs off into sewer system				
Tough section for bikes on road - kids bike on sidewalk	Main St	Main St between Straw and North Maple	Corridor	Challenge
Better connection needed from path to High School area	MassCentral Rail Trail	Where rail trail intersects Prospect Ave	Spot	Challenge
Sidewalk and traffic calming needed on Hatfield St	Hatfield St	Hatfield St inbetween Bridge Rd and N King St	Corridor	Challenge

Very difficult intersection for bikes and peds	Hatfield St	Hatfield St at N King St	Spot	Challenge
Sidewalk ends and no pedestrian crossing: very dangerous intersection	N King St	N King St at Damon Rd / Bridge Rd	Spot	Challenge
Bikes come up the wrong side of North St: need bike lanes and street trees	North St	North St between the intersection of North and Market and the intersection of North and Lincoln	Corridor	Challenge
Difficult intersection at Woodmont Rd and North St	North St	North St at Woodmont Rd	Spot	Challenge
Bikes ride along sidewalk creating danger for both bikes and pedestrians between Trumbull and Finn, roadway is narrow, tree trimming is needed for proper night time street illumination by street lights	State St	Along State St between Trumbull and Finn	Corridor	Challenge
Traffic calming needed at Holyoke and Pleasant	Holyoke St	Holyoke at Pleasant	Spot	Challenge
Traffic calming needed along Pleasant St, please utilize street trees with proper maintenance to achieve traffic calming goals	Pleasant St	Pleasant St from Exit 18 off ramp to Railroad Ave	Corridor	Challenge
Have a Trail Festival!				Opportunity
Long term bike parking needed at train station	Railroad Ave		Spot	Opportunity
Not clear how to get through safely -- connection between trails as they cross Pleasant St and Conz St	New Haven & Northampton Canal Line Trail	Intersection of rail trail and Conz St & Intersection of rail trail and Pleasant St	Corridor	Challenge
St to New Haven & Northampton Canal Line Trail along Hebert Ave (opposite Olive St)	South St / Hebert Ave	Intersection of South St and Olive St	Corridor	Opportunity
Motorists speed and do not comply with State law to yield to pedestrians in crosswalks along South St from Fort St to Cedar St	South St	Along South St from Fort St to Cedar St	Corridor	Challenge
Dangerous motorist turn movement: while traveling along Elm St towards downtown, motorists are able to make a right turn onto West St during a green light that coincides during the pedestrian walk signal	Elm St	South St at Elm St	Spot	Challenge
Crosswalk needed	Elm St	South St at Elm St	Spot	Challenge
Motorists do not understand bike box on State St: frustrated motorists yell at cyclists. Provide better driver education and awareness.	State St	On State St where Elm St meets West St	Spot	Challenge
Pedestrian access improvements needed at train station	Railroad Ave		Spot	Challenge

I encourage Mass DOT (and Northampton) to THINK BIG during this process and avoid the limits of past ways of thinking about our cities and roads.				
I propose making all of downtown Northampton a pedestrianized zone, which would require:				
• Closing all central downtown streets to all or most motor vehicle traffic				
• Creating a new loop route for motor vehicles around downtown				
• Installing more parking at or outside this loop				
• Installing pedestrian-friendly surfacing of pedestrianized downtown area				
Cities that have done this (mostly in Europe) have found it offers the following benefits:				
• Increases beauty, enjoyment and convenience for residents and tourists				
• Increases vitality of and attraction to downtown area for shoppers, diners, walkers, etc.				
• Creates outdoor dining options everywhere				
• Reduces reliance on cars, reduces negative impact on environment				
• Offers citizens opportunities to walk more and improve their health				
The initial outlay would be high but the cost would pay off over time in:				
• Reduced road maintenance in pedestrianized zone				
• Increased revenue to the city from increased commerce in pedestrianized zone				
• Increase in tourism to Northampton				
• Eliminate parking enforcement officers (by putting in place only restricted entry parking lots/garages)				

Northampton would be an ideal place for this idea. It would, in a way, be expanding on the incredibly popular Tuesday afternoon farm market held in the pedestrianized area behind Thorne's Market.				
Northampton's downtown pedestrian zone could become a model for other cities in the Commonwealth.				
Each of the reasons people will oppose this idea can be satisfactorily addressed, as has been done elsewhere. For example, how will delivery vehicles serve the stores and restaurants in a pedestrianized zone? Possible solutions include: 1. Allow trucks restricted access to the pedestrian zone through retractable barriers, or 2. Create a central drop-off depot from which deliveries are transferred to smaller, electric vehicles.				
I am a resident of Northampton. Thank you for opening up your process to public comments! - Lynn Barclay				
One of my elderly friends who walks daily across town wanted to mention three particularly problematic locations for pedestrians.				
Main/Elm, New South/State. The right turn on red from Elm is rarely from a stop and the diagonally crossing is between two actively turning lanes.				
Main Street in front of City Hall: long, on angled road, with adjacent intersections				
Bridge/Damon/King is very tough for pedestrians to cross - Ellie Cook				

Public Comments Written by Attendees - May 18, 2016

Public Forum #2

COMMENT	LOCATION	INTERSECTION	CORRIDOR or SPOT	OPPORTUNITY or CHALLENGE
Draft Evaluation Criteria: 1-mile proximity to school should be 2miles because there is no bus service within 2 miles of a school				

Draft Evaluation Criteria: should be safe to walk or bike to school within 2 miles				
Reduce speed limits				
Minimal roadway maintenance as a traffic calming measure - cars cannot go fast if they are dodging potholes				
Kids education about biking and walking is really important				
Leeds 4th/5th graders will receive bike safety training from SRTS, needed at all schools				
There is funding available for after-school instruction, is it usable for safety training?				
The city should set mode shift goals (discussion: the current focus is on improving measurement)				
Someone should study whether the zoning TDM requirements are working				
Employee-wellness programs to encourage biking and walking, tie in to DPH Working on Wellness program				
End-of-trip facilities are really important				
Can Umass be required to provide end-of-trip facilities?				
Map doesn't indicate whether road is actually being narrowed, in addition to adding bike facilities, would help slow down cars	Locust St		Between Smith Voc-Ag and Florence	
General comment - should narrow roadways to reduce speeds				
Pavement condition is important				
Question: If road is being restriped, will pavement condition also be improved?				
What about roads that are too wide even with bike lanes? Can the city set a maximum travel lane width?	Examples: South St, N. Elm St west of Florence Center			
Plow all the bike paths, and make sure snow is not piled at path intersections (participants report only path from Leeds to State St is plowed consistently)				
Be sure to consider emergency vehicle access and response when planning traffic calming treatments (concerned about blocking emergency vehicles)				

Leeds: no access to Roberts Meadow conservation land or beach, bridge is closed	Hotel Bridge			
Leeds: beach access, road has no sidewalk and fast traffic	Reservoir Rd			
Meadow St is terrible for biking due to pavement condition and lack of facilities	Meadow St			
Prioritize pavement management based on bicyclist needs, link bike network plan and pavement management				
Fix only the shoulders, leave potholes for cars				
Maintain safe access for bikes and peds during construction				
Snow clearance: assistance for elderly? (can already request?)				
Paths should have benches, water, emergency call boxes, and animal-proof trash cans				
Pedicabs				
It's hard to visualize what these things mean on a map				
Heavy interest in rail trail overpass				
Route 5 south of Conz St: Atwood to east sidewalk extension, State Road jurisdiction makes it difficult				
Narrow streets downtown				
Pleasant St is difficult as a cyclist, "I pretend I'm a car."				
On narrowest streets remove car parking entirely				
When I take the lane cars get frustrated and honk. They don't understand that they need to signal to be predictable.				
Market + Hawley: issues with people popping in and out				
Encourage use of off-street parking to free-up R.O.W.				
Educate people on talking				
Rte 10 - drivers use bike lane to pass other cars				
Bike yield at rail trail crossing shouldn't be switched, fatalities will happen				
Stopping at every block on rail trail is inefficient				
Advocacy for Idaho stop				
Bedford Terrace from State to Finn sidewalk deterioration is so problematic				
State near Stop n Shop must walk				

Bridge St near school signal is important				
Speed on Bridge St is too high				
Need better texting laws enforcement				
Rainbow crosswalk on Main St is brightest crosswalk in city, should be more				
King St is awful to walk on				
Light the rail trail: "my light died while on it one night," day glow, sunlight recharges lights, European trail example				
Concerns about taking parking away on Main St				
Medians and bump outs on Main St issues				
How do parades and demonstrations function with these				
Snow removal more complicated currently middle of the road is where snow is piled				
Head of plowing: "With a median that would be interesting."				
In winter when snow reduces width of auto lane down to one lane, it is miserable traffic slows to a crawl				
POLICIES:				
Safe Routes to School				
Education needed for classes at schools, or after school program - fund mass bike or similar instructors				
Mode shift - set goal				
Transportation demand management, especially at major employers				
End of trip facilities for new major developments (commercial only)				
Questions about what that means				
Can we provide incentives for using bicycle parking?				
Tax benefit for employers				
City should adopt that for employees				
PROJECT SUGGESTIONS:				
General recommendation: narrow travel lanes where possible. Set context- sensitive travel lane widths.				
Example: Rt 9 between Smith and Florence				
Improve pavement conditions				
Example: North Elm st northwest of Florence				
Center: Bike lane added but vehicle lanes still too wide				

Traffic calming should be context sensitive, consider primary emergency response routes, and be very aggressive elsewhere with traffic calming				
Heavily-used emergency routes aren't necessarily same as major roads				
Also consider traffic-volume, if low volume don't worry about need for cars to move over				
Notes:				
Investment in education				
"Bicyclists hate drivers and drivers hate bicyclists"				
There needs to be a larger education program				
For adults – education on the rail trail and at the RMV				
For children – education at schools				
Drivers think that they don't need to signal when there are no other vehicles around, however they don't think about how signaling can benefit pedestrians and bicyclists				
Cooley Dickinson Hospital has a new office on Atwood Drive off of Route 5				
There are no sidewalks in that area				
There is a PVTa bus route that travels down Route 5				
Need to bump snow clearing up the list				
Provide assistance to elderly and renters for shoveling snow				
Education and enforcement to shovel their sidewalks				
The underpass needs to happen faster				
People currently cut through the fence				
Pomeroy Terrace and Hawley Street area				
Residents have difficulty crossing Route 5 to the downtown area				
That area feels separated from the rest of the City				
Finn Street				
Convert it to a one way to make it safer for bicyclists and pedestrians				
Resident would like to see a 4-way stop at the intersection of Finn and State Streets, which would make it much safer for pedestrians crossing				

Prospect Street at Finn Street – the resident thinks there is enough right of way to make it more a 90° intersection (dangerous for those trying to cross Finn Street at the crosswalk)				
Barrett Street				
Needs traffic calming such as speed humps				
The sidewalks are in terrible condition, which makes it difficult for the disabled to travel				
There are many housing complexes on that street				
Damon Road				
At the car dealership/River Run, there needs to be sidewalks				
Calvin Theater				
Residents like the idea of a bump out at the Northampton Hotel and would like to see a bump out at the theater as well since many people line up for shows				
Fern Street and JFK Middle School				
Rather than taking the rail trail to Bridge Road, students travel up Oak Street, turn on to Fern Street, and up Beech Street to get to JFK Middle School				
Fitzgerald Lake				
To get to the Lake, residents often travel up Oak Street and Spring Grove Avenue and then cut through the cemetery to get to North Farms Road				
There needs to be a gate at the cemetery for pedestrians and bicyclists to get back on the street				
Rail Trails				
A resident saw new wayfinding signs that were installed last week				
Wayfinding signage should have distance and times to landmarks (such as Stop and Shop) rather than to streets (the signs currently have times to King St)				
The back side of Stop and Shop could have a mural painted				
A resident would like to see benches to rest and relax, call boxes in case of an emergency, and water drinking fountains				
Place animal proof trash cans along the trail				

Animals don't understand that they cannot eat plastic				
Have Pedal People empty the trash since they use the trail				
Having trash cans would encourage walkers to pick up after their pets				
Install animal crossing signs for bicyclists to be aware of animal presence				
Mill River				
Residents like the idea of a trail bridge over the Mill River near Federal Street				
They would like to see a path from the Mill River to Childs Park behind the Northampton High School				
North Maple Street				
Residents do not know what advisory bike lanes are				
It seems that these bike lanes would take away parking				
Sidewalks in general				
Residents are angry that there is a sidewalk present only on one side of the street on many of the streets in the City				
Frequently seen all over the City: sidewalk – no sidewalk – sidewalk switches to other side with no crosswalk				
This makes travelling very difficult for the disabled				
Franklin Street				
Handicapped ramps are needed on the side streets off of Franklin Street				
Sidewalk needed on underpass at Damon Rd under I-91				
Sidewalk and crosswalk needed on Gleason Rd				
Traffic calming needed: Along entire length of Spring Grove Ave and Oak St				
There is an island planned at the intersection of N Main St and Meadow St				
There is no stop sign or crosswalk at the intersection of Meadow St and Park St				
Install water fountain and rail trail where it crosses Main St				
State St at Finn St: potential 4-way stop				
Rail trail signage needed near Stop n Shop				

Realign Prospect St on its approach to Finn St to have the intersection at more of a right angle				
Bump out needed in front of Calvin Theater				
Disconnected neighborhoods between Main St and Holyoke St on both sides of active rail line				
Curb cuts needed along Franklin St between Propsect and Elm				
Potential for four one way streets to ease traffic turning issues: The rectangle made up of State, Summer, Finn, and Prospect				
Traffic calming needed along Barrett St				

Walk/Bike Northampton

Plan: Main St. Design

Workshop

10-May-16

COMMENT	LOCATION	INTERSECTION	CORRIDOR or SPOT	OPPORTUNITY or CHALLENGE
Gateway / Entry opportunity: West at State at Main				
Gateway / Entry Opportunity: Strong at Main				
Goals: Slow traffic, more pedestrian space, more trees, bikes will go if traffic is slow, less pavement and more green, 10' travel lanes, wide sidewalks				
Sidewalk not wide enough in front of restaurants	Just west of rail trail, north side of Main St			
Awkward left turn for cars	Just west of rail trail, north side of Main St			
Strong Avenue crossing is very busy and difficult, requires watching traffic in different directions	Strong at Main			

sidewalk too narrow with sidewalk seating and tables at Spoleto	On Main St, just east of rail trail, in front of Spoleto			
Sidewalk too narrow with sidewalk seating and tables at Filo's	On Main St, in front of Filo's			
Crosswalk that crosses Main Street between State St and South St is very faded and needs re-striping				
Goal: 15 MPH traffic speed, mountable medians for emergency access with pockets of landscaping, keep travel lanes narrow, allow space for bicycles on road				
Keep some degree of unpredictability in order to slow cars - "safe chaos"				
Minimize use of standard white/yellow paint, highway markings give confidence to drivers, encouraging speeding				
Any cycle tracks must give 2X attention to intersections (dangerous conflict points)				
Turn lanes only at major intersections (traffic moves slowly enough through center core that turns are possible without turn lanes)				
More street trees (sense of enclosure, slowing cars)				
Arrange street to create "artificial chaos" that will cause drivers to move more slowly				
Shared space VS. striped, managed space				
Main at Pleasant at King: create intersection art on pavement between four crosswalks				
Annual event: space for complete streets, recycle a bicycle event				

Ice sculpture using snow in median				
Formalize currently ambiguous transition from shared space to striped travel lanes where diagonal parking ends opposite First Sanctuary Churches				
Great space for parklet where diagonal parking is on corner of Crafts and Main (East side of Crafts / South side of Main)				
Elongate existing bumpout at corner of Elm and State to the West (towards West St)				
New Alley: from Cracker Barrel Alley across Center St (just south of Masonic) through middle of Gothic, across King, terminating at rail trail, 150 feet north of rail trail ramp to parking lot behind Fitzwilly's)				
Create ice sculptures using snow in median of Main St				
Improvements needed: bicycle infrastructure up[grades from Rail Trail ramp behind Fitzwilly's to Main St (blind spots exist) Pavement striping would help define space				
I'd also like to share three things I				
am very much looking forward to that are mentioned in the Walk/Bike plan:				
1. the tunnel under the railroad tracks on King St that has been postponed				
at least twice from its original (I believe) DOT 2014 construction date.				
I really hope this will (finally!) happen this year;				
2. completing that last section of trail from Leeds to Haydenville. (Are				

there plans to pave the gravel section in Leeds from Mulberry St to the				
recently completed section of paved trail that starts at the Grove St				
ramp?);				
3. The Hatfield spur that is planned to go from the new riverfront				
park/recreation area by Lane Construction off Damon Rd up to Hatfield				
Rd/Elm Court Rd in Hatfield. For me, this would mean WAY less biking on				
the highly-trafficked section of North King St!				
As an extremely careful but pretty much fearless veteran biker, I also				
welcome all the discussion about dedicated bike lanes (especially				
downtown!) and the clear interest by the City to make it *much* more				
walk/bike-friendly than it already is.				
As one of a dedicated group of winter bikers, I applaud the City for				
plowing the parts of the rail trail that it plows and would strongly				
encourage that that plan be expanded to ALL the paved trails in town.				
Anyone who walks them in the winter, knows that the the unplowed trails				
still get a LOT of use in the winter... except by us bike commuters who				
have to bike on Damon Rd, King St, Bridge St and other				

dangerous-for-bikes-in-the-winter thoroughfares whenever there's snow on				
the ground.				
Thank you for your efforts. Your work is very much appreciated. I hope				
you'll pass my comments along to the appropriate people and committees.				

Public Comments Collected by Staff - March 7, 2016

COMMENT	LOCATION	INTERSECTION
Arborist - room for trees is disappearing as sidewalks are built		
Add more trees, not enough tree canopy		
Plan to cross King St	King St	
Tunnel Status		
Neighborhood behind rail station cut off, now fenced off long stretch, no way to cross tracks		
State St: Ped and bicycle accomodations are poor	State St	
Bike path ends on State St	State St	
Most critical road connection		
One way for cars on State	State St	
One way on Parsons	Parsons St	
Bike Lane on King / U.S. 1 / State St improvements	King St / State St	
At night: rail trail feels unsafe	Rail trails	
North and King St crosswalks unsafe	North St at King St	
Damon Rd at King St bad	Damon Rd at King St	
State rules prevent lowering speed to 20MPH		
Local control over speed limits needed		
Winter Access: December to March - sidewalks inaccessible due to snow		
There is a lack of plowing, snow removal		
Uneven sidewalk, pavement is poor quality		
Atwood Place: Clarion Hotel - poor sidewalk connection	Atwood Pl	
Bike Parking: covered near door of Atwood	Atwood Pl	
Bicycle security issue: want to park bikes near destination		
Too few bike racks downtown		
Riding with young children downtown very unsafe, lack of bike lanes		
Left turn to Forbes library is awful	Forbes St	Forbes St at Library
Circulation around downtown on bike is difficult		
Ramp behind Fitzwilly's is poor	Rail Trail	Rail Trail at Fitzwilly's
Crescent St switches sides all the time, no crosswalks	Crescent St	
Schools: Bridge St has bad traffic	Bridge St	at School
Jackson Street very busy traffic	Jackson Street	at School
Paint markings are worn, particularly during winter		
Durability of marking is an issue		
Damon Rd inaccessibility: grade issues, critical link	Damon Rd	
Damon Rd at Bridge Rd: missing connection	Damon Rd	Damon at Bridge
Baysite Section: Riverside Dr, traffic calming needed	Riverside Dr	
Schools: 2 mile radius, no bussing, check gaps within 2 mile radius		

Cycling education should be better advanced		
Roundabout at Look Park: no bike crossing signage	Look Park	
Proper etiquette for using trails		
More radar speed signs needed		
Sweep sand from sidewalks: Bridge St, Main St	Bridge St, Main St	
Use pot holes as traffic calming		
Rumble strips good		
South St location between old school commons and academy of music: crosswalk needed	South St	South St at Academy of Music
Licenses for bicyclists		
Education for all road users		
Education: adults as well as VA people, shelters, teenagers		
State St at New South St: short time to cross	State St	State St at New South St
Elm St: glare still a problem	Elm St	
Bike strategies for older adults		
Parsons: One-way out to Bridge or stop light and turn signal at Bridge and Parsons	Bridge St	Bridge St at Parsons
PVTA included with walkers and bicyclists		
Sidewalks to Atwood drive medical offices	Atwood Dr	
Sidewalks to Cooley Dickinson		Cooley Dickinson Hospital
Crossing over/under tracks		
No parking enforced by sidewalk by Bridge Street cemetery		
Jay walking tickets		
Better drainage on Bridge St to lessen pedestrians getting splashed		
Regular PVTA to Highschool + Jr. High		
Close street at sidewalk sales		
Trees		
Residents want more trees for traffic calming		
People drive slow when the street is tree lined		
Pleasant Street – need more trees along this corridor		
North Maple – many students from JFK middle school walk this street because they feel safer		
Fern Street – lacks trees		
The tree species is important		
There are some trees that have low hanging branches that might lie on the road		
The branches also may decrease sight lines		
King Street/North King Street/Hatfield Street/Damon Road		

Sidewalks were recently put in on the western side of North King Street, but it ends at the Bridge/King/North King/Damon intersection with no pedestrian crossing		
Hatfield Street		
There is no sidewalk from Hatfield Street towards Bridge Road		
It's difficult to walk there		
State Street		
From Trumbull Street towards Stop and Shop, the sidewalk and road are in poor condition		
South Street		
Difficult to get to the Norwottuck Rail Trail bridge when trying to get to Amherst		
North Street		
Bicyclists traveling in the wrong direction		
There is a lack of trees in the tree belt		
Trees shouldn't be put in after construction is done		
It's not pleasant walking when there is no shade and it's warm outside		
The bicyclists do not feel safe riding on the road with the vehicles (it's a narrow street), so they ride on the sidewalk		
The street lights are blocked by trees, so it is extremely dark at night		
People will walk on King Street due to the problems listed above about State Street		
Bike Racks		
There is a lack of bike racks all throughout downtown		
Easthampton has painted bike racks		
If Main Street is narrower, there would be space for bike racks		
Holyoke Street		
Traffic calming is needed		
Manhan Rail Trail		
It runs adjacent to the Roundhouse and the bus station, but the connection from the parking lot to the trail are not well defined		
Looks nice on paper, but is actually very difficult to traverse due to the ramp connections		
One resident takes North Street to Industrial Drive to get to the Norwottuck bridge		
Mass Central Rail Trail		
Would like to see a connection from the rail trail to the Northampton High School by the Childs Park		
Prompt #2 – Critical Sidewalk Gaps		
West Street		
By Smith College and Forbes Library, there is a gap in the sidewalk		

The crosswalk across West Street (to Green Street) is very long		
Cars are parked too close to crosswalks		
Bring the curb closer and physically make the road narrower		
Painted lines don't stop vehicles		
Prospect Street		
It was repaved last summer, but is still very wide		
Mixed comments on wanting a mini roundabout at the Woodlawn/Jackson/Prospect intersection		
South Street		
When trying to use the crosswalk at night, there are often more than 20 vehicles that do not stop		
The bike lanes were striped in October, but the paint has faded because of the sand and the salt from the winter season		
Hebert Avenue		
A private way off of South Street, but has potential for a connection to the Manhan Rail Trail		
Smith College did a study on the feasibility of a ramp (Wayne might have this?)		
Scanlon Avenue		
There is high pedestrian activity on this street (near Florence Heights), but no sidewalks		
There are also some bicyclists that use this street (possible contraflow lane?)		
DOWNTOWN COMMENTS:		
New South/Main/Elm/State/West Streets		
When crossing New South Street towards the Academy of Music, the traffic light displays a green ball, but the walk light is on and vehicles still turn right		
People cross Elm Street (at West Street) where there is no crosswalk		
Bike boxes on Elm Street heading eastbound: drivers have yelled at bicyclists when they go around vehicles to get to the bike box		
Needs to be repainted		
Drivers need to be educated on bike boxes		
Train station		
Would like the station to be more pedestrian accessible		
No place to keep a car or bike long term in the area		
Would like to encourage more people to use the trains		
Prompt #4 – Program Ideas		
Motorist education		
Buses		
Offer busing at shorter distances		

Lower fees for busing. There may be more users if the fees are lower		
More bike racks at schools		
More programs like Safety Village		
More afterschool programs by Pedal People		
Biking clubs at schools (education and socializing)		
Jackson Street school had the walking school bus on the bike path		
A rail trail festival		
For the next forum, residents request more copies to be made of the blown up maps.		

Public Comments via Email and City Website - Ongoing

COMMENT	WEB or EMAIL
Hampton Court is a five-story 77 unit residential complex at 20 Hampton Avenue housing over 150 people including seniors, disabled, and children. The complex also contains businesses on the first floor. The most commonly used path that residents, guests, and businesses use to cross Hampton Avenue to access the Armory parking lot, the city garage, and downtown shops is mid-block opposite the WHMP radio station. This unmarked crossing is particularly difficult for disabled crossers (no ramp) and everyone during winter months. Consequently, some people use driveways and the street instead of the sidewalk – an unsafe behavior. As a result, the Hampton Court Community Association requested that the city place a crosswalk at this location (see “HCCA Crosswalk Request” attached). Currently there are no marked crosswalks along the 1,000-foot Hampton Avenue between Old South and Pleasant Streets. This request was first expressed in September 2015 to the city’s Transportation and Parking Commission and residents have testified at a number of commission meetings regarding this request over the past year.	Email
Atwood Drive is very challenging to access via bike or walking (and it's not easy via transit, since the bus doesn't stop unless you call the PVTa).	Email
People often park their cars in bike lanes, especially on Prospect St., because there are not enough 'no parking' signs. This ends up being a significant safety issue.	Email
Crosswalks are confusing, especially for out of towners. If crosswalk markings differentiated between walk sign controlled (Main & King etc. Sts) and non walk sign controlled (King & Trumbull; King & Finn), both drivers and crossers would have cues to guide them.	Email
Many of the sidewalks, for example Elm Street, are very bumpy because of tree roots. Baby carriages, wheelchairs, bicycles and anything with wheels are really hard to navigate on them and people use the street instead. Even walking on them isn't that easy. Some bumps have been painted yellow as warnings. We wish more could be done.	Email
Even people who use crosswalks at night are hard to see because our coats tend to be dark colors. If we could all be encouraged to at least use the lights of our phones. Better yet would be reflective tape on our coats like running shoes. (The city (and Smith College) could give out reflective stickons that might be an inexpensive partial solution.) Maybe a wider used of the blinking lights that are used on State near Center Street (although most of the crossing happens across Center, not State) would help. Anything that would make pedestrians more visible would help. I hope other people have better ideas.	Email
And by the way, what's happening to that bicycle underpass for the bikeway?	Email
We have noticed in several recent developments, e.g. the new office building on the corner of N. Maple and Main in Florence, the absence of shade trees where there were opportunities to plant them, and just from our own anecdotal experience, there seem to be less emphasis placed on shade trees in other developments we’ve seen around town. In the City's new bike/ped comprehensive plan, and any future plan that affects our streets and trails, please feature prominently green infrastructure, especially shade trees. Shade trees provide many benefits for all who travel, but especially walkers and bikers like us--cooling shade, traffic calming, beauty, lower stress, storm water mitigation, and pollution reduction. Numerous studies show that every dollar invested in urban trees returns \$3-5 in net benefit. We’ve read the 2011 report by the Alliance for Community Trees entitled “Benefits of Trees and Urban Forests,” a 10-page summary of this research, and it’s support for this is quite convincing.	Email

<p>Sorry I couldn't make the meeting this week. I travel in Northampton about 60% by foot, 35% by bike, and 5% by car. I am a very capable city biker and a fully able-bodied pedestrian. My concerns are mainly for people with less bike confidence or more restricted mobility. First, the sidewalks are in terrible shape, and are often impassable for much of the winter. I would like to see more civic energy devoted to encouraging shovelers and penalizing non-compliant property owners. Downtown and all city property (including e.g. the bridges on South) should be shoveled by the city-- this is a moral priority to enable accessibility. Re: biking: I would love to see all street parking removed except a couple of handicapped spaces, with city lots ringing downtown and shuttles running from Main to the lots. That's a bit far out, but for now: how about sharrows in the middle of Main? There is no safe biking at the edges of the diagonal parking, and bikes should be encouraged in the lanes</p>	
<p>I spend a lot of time cycling on the road so am certainly sympathetic to people riding bikes. However, there has to be a definite balance between the needs and expectations of people in cars and those of bikers. I am sure you understand that what I assume was an overwhelming show of support for shifting the balance toward biking/walking and away from cars was only from a small and not representative slice of the population who support biking and were motivated to attend the meeting. I strongly suspect that a poll of people generally in the city will differ considerably from the opinions expressed by people who attended the meeting. I suggest that some caution is appropriate before embarking on any major change in transportation priorities. Alan Verson</p>	Web
<p>As someone who lives and works downtown, i spend a lot of my time walking around town. i am most concerned about the state of the paint on the crosswalks particularly the diagonal crosswalk at the corner of state, main and new south and the newly moved crosswalk halfway down new south. i would like to see higher quality paint used on the crosswalks so that they last for more than one or two seasons.</p>	Web
<p>I have two safety-related concerns. One has to do with keeping the trail from King Street to the Easthampton line clear; and the other has to do with trail etiquette. At this time, there is adopt-a-trail scheme in place for trash removal and brush/weeds clearing on this section. I believe that the city should take responsibility for doing the major share of this work, with supplemental contributions by volunteers. In some places on the trail, as a consequence of overgrowth, traffic is reduced to one lane, despite efforts by current volunteers to keep up with it. Volunteerism is insufficient. Besides, the city should be involved in the upkeep, safety and presentation of this heavily used trail. Easthampton seems to be able to do so. As for etiquette and safety rules, there should be signage as trail entries reminding people about the multiple users of the trail and what their responsibilities are toward each other -- sharing the trail, announcing passing, picking up after pets, etc.</p>	Web

<p>I urge the city to use education as a primary strategy for empowering people to travel by bicycle. I am interested in personally working with the city on this. With the proper training (such that that provided thought the CyclingSavvy program, see cyclingsavvy.org), nearly anyone can travel anywhere, safely and confidently, by bicycle -- not just on a few streets, but nearly anywhere in the world. Moreover, it is extremely inexpensive. In addition to training cyclists, we should also be training police officers and other public officials, planners and engineers, motorists, and the general public. Police officers need a good understanding of bicycle law and safety so that they can enforce the law correctly and fairly. Motorists need to understand how to interact with cyclists safely and respectfully. Planners and engineers need to understand how cyclists fit into the traffic pattern in order to design roads that encourage safe behavior and calm attitudes.</p>	Web
<p>In terms of designing streets that make cycling safer and easier, making sure that there is nothing to restrict a cyclist's ability to occupy the position on the road that they think is best at the time or limit a cyclist's ability to change positions based on changing conditions. Physical barriers make cycling more difficult and more dangerous. They create danger for cyclists who are timid or not well-trained to understand the dangers. They create difficulty for well-trained cyclist who must be more alert and more assertive. The most notable example of such barriers in Northampton are the rumble strips on Rt. 10 between downtown and the Easthampton border. Rt. 10 is the fastest, most direct route between Northampton and Easthampton, and those rumble strips are the bane of my travels between Northampton and Easthampton. I would urge Northampton officials to ask me more about these issues or take a CyclingSavvy class (cyclingsavvy.org), at least the online classes.</p>	Web
<p>As a pedestrian, one of the common problems I see is that rainwater pools at curbcuts. Roadways are designed and built at great expense to drain rainwater off, but no such effort goes into sidewalks. Also sidewalk maintenance, particularly snow clear should be a higher priority on sidewalks than on roadways, rather than an after thought. Sidewalks should be wider, and should not be used as a dumping ground for signs, telephone poles, and other stuff that doesn't serve pedestrians. They should only contain things that serve pedestrians. Signs should be moved off of the sidewalk and onto the roadway, shoulder, or verge. I have other, more radical ideas, but I am not comfortable posting them here.</p>	Web
<p>I want to express how frustrated and disappointed I was with the "public forum" that started this off. Having a company run the forum is totally inappropriate, and it really undermines any semblance of being open for public discussion. There was no public discussion at all. Comments were addressed only to company representatives. And even this was not done in a dignified way. It was a free-for-all, with everyone standing in a crowd around company representatives. I was expected a real public discussion, and I was looking forward to addressing the entire forum. The company is a street design company, and their representative made sure that most of the forum was focused on street design issues, rather than being open to other strategies. Also, these representatives did not seem to have a good understanding bicycle safety issues, and were quick to propose designs that would appeal to people's fear and ignorance while creating unnecessary hazards for cyclists. Unethical if you ask me.</p>	Web

<p>Many thanks for your work regarding Northampton's Pedestrian and Bicycle Comprehensive Plan. I was unable to attend the meeting yesterday, but I wanted to suggest a "No Right on Red" sign at the South Street/State Street/Elm Street/Main Street intersection. It's often very dangerous to cross either South Street or Main Street as a pedestrian during the walk signal because cars come down the hill at high speeds from Elm Street. It's very hard to tell if drivers see the pedestrians here and often do not acknowledge that the pedestrians have the right of way when the walk signal is on. I think this will make it safer for cyclists on this road. I'd also love to see more action to make it safer for cyclists on South Street. Maybe adding new painted lines. Cars are very often in the bike lane, especially at intersections. Thanks so much! Meaghan Hall</p>	Web
<p>I have noticed (as I walk everywhere) the following things: 1. People often blow through the red light on South near Munroe (the pedestrian light). 2. People are not used to the left turn only light on Main Street (the new one, the one that faces the traffic coming FROM the Coolidge Bridge)--and so they either don't move--or ALL the traffic moves, not just the left turn only lane. (I think, by the way, that the left turn only lane and light for that traffic is terrific.) 3. People on bikes riding on the sidewalks. (Scary) Meanwhile--I LOVE walking all over Northampton and am in favor of anything that can make more places that are secured for walkers (and folks on bicycles). Best wishes-- Micala Sidore</p>	Web
<p>Part of my family's choice to move here was bike infrastructure. 1. The obvious addition of an underpass to connect Hadley to Florence will be great. 2. Marked bike lanes on route 9 coming from Hadley suddenly ends in a way that makes things awkward for cyclists and cars. 3. Simple signage on bike path might make things more convenient for users and drive commerce into town. (In the same style as Interstate Highway signs) This could prove very valuable once the bike paths connect and extend which could make Noho a meaningful middle point for summer cyclists looking for a nice lunch or ice cream. Take for instance how Maple Farm foods has capitalized. 4. Slightly adjacent with the great paths an effort could be made to push Noho as a place to visit with your bike and use the paths as a tourism draw that could also help alleviate downtown parking strife if folks are happy parking a half mile out and pedaling into town.</p>	Web
<p>1. Problem: Crosswalk across Nonotuck (at Bliss) leads to an embankment instead of a ramp. Fix: Either move crosswalk or create ramp. 2. Problem: Multiple spots on Nonotuck's sidewalk where hedges impede pedestrians. Fix: Citizen education, enforcement of existing bylaws, and communication to appropriate committees like Bike/Ped Subcommittee.</p>	Web